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NRDC cuts cash as profits fall

by John Riley
THE information technology industry can expect less cash from the government-backed National Research Development Corporation (NRDC) next year. That was chief executive Brian Willott's message at the release of the corporation's annual report last week.

Storm clouds are gathering over the organisation, which is part of the British Technology Group. A sharp drop in profits was reported, lower revenues are forecast for next year, and there is uncertainty about how new governmental policy guidelines for the NRDC will be implemented.

But industry leaders rejected Willott's warning that venture capitalists might not be ready to step into the breach, if the NRDC is drastically curtailed.

Logica chairman Philip Hughes said: "The NRDC fulfilled an important function in the '60s and '70s, but these days people tend to look elsewhere. The City has dra-

matically changed its views of software in the past two years and now thinks it a most attractive investment."

The net surplus after tax for 1982-83 was £960,000, compared with £5.02 million last year. This year £17.18 million had to be written off due to investments that failed to get off the ground, compared with £9.75 million last year. According to Willott, about one third of the investments had been in the information technology sector, with Compeda a major money loser.

Although income from patents was up £1 million to £25.19 million, Willott forecast future revenue from that source to drop by £7-10 million because certain lucrative medical patents owned by the NRDC would expire this year.

The NRDC has been told by the government that it must become self-sufficient, must focus on technology transfer, and is to lose its

first refusal rights on exploiting inventions arising from Research Council and government generated research.

Willott expected that the NRDC would not finance information technology projects and ideas as heavily as in the past. "The IT area is a fashionable one, which promotes a lot of interest from the private sector, so it is easier to raise cash for IT. For a time we won't need to be so active in investing in this area, although we are not pulling back from IT," he said.

Of the IT projects that it does fund, it is likely that the main emphasis will be software-oriented schemes. "Software companies find it difficult to get funding because banks like companies to have tangible assets," said David James, of NRDC's small companies' division.

The NRDC spent a total of £11.83 million on projects last year.



WILLOTT... "The IT area is a fashionable one."

Fears of leak are quashed

by George Black

THE British Technology Group (BTG) and its chip-making offshoot Immos moved quickly last week to quash fears that sensitive technology could have leaked from them to the Soviet bloc.

One of the men involved in the case of selling defence secrets to the Poles, William Hagle, undertook consultancy work for the BTG's predecessor, the National Enterprise Board, in 1978-9.

But a BTG spokesman said: "His consultancy was not concerned with the Immos project but with other aspects of the semiconductor industry. Anything the Hagle learnt in that time would be out-of-date now anyway."

And Immos backed up that view. "We have never had a business relationship of any kind at any time," with Dr Hagle.

Suggestions that Hagle could have discovered the secret of Immos' "chip of the future," its transporter, were also dismissed. The transporter inventor Ian Barrie did not recall having any

Privacy Bill threatens IT policy

by George Black

THE government was warned last week that its legislation to control the use of computerised data could sabotage its efforts to boost the UK's information technology industry.

As Home Secretary Leon Brittan introduced the Police and Criminal Evidence Bill, which will establish the use of computer evidence, he was warned that the Data Protection Bill now before the House of Lords would discour-

age business use of computers.

Professor Brian Niblett, barrister and head of computer science at Swansea University, said in London last week that the Privacy Bill would drive many firms back to manual systems, exempt from its complex provisions.

His warning was endorsed by Dr Charles Oppenheim, chairman of the council of the Institute of Information Scientists, who said that the legislation could impede computerisation currently in progress.

The two were addressing a meeting of DP managers held by Oyez International Business Communications.

Chairman of the meeting John Myers said that amendments proposed by the House of Lords would not solve the problems.

"Virtually every business will have to register - it will be a massive job. The registrar won't have the resources to cope. And if you fail to register there are quite sweeping powers to prevent any firm from collecting information," said Myers.

The Bill as drafted is quite at odds with the government's de-

clared policy of bringing in the new technology.

The only thing which was absolutely clear, he added, was that it would be a ban for lawyers and consultancies advising private businesses on its implications.

The Bill, which returns to the Commons after its third reading in the Lords this week, is expected to gain the royal assent some time during 1984 - "an appropriate year for it to reach the statute book", according to Myers.

The Institute of Information Scientists (IIS) has sent a written submission to the government urging it to clarify the distinction between word processing and data processing functions. This is one of the amendments the Lords have been wrestling with.

The Bill should be extended to cover all forms of personal data, whether machine-readable or not, it argues.

Another attack, on different grounds, has come from the National Council for Civil Liberties. The NCCL argues that it will not protect public privacy as is claimed, but will serve to undermine it.



TAYLOR... "Significant result for British software industry."

Staff back Logica in shares stampede

by John Riley

LOGICA was backed to the tune of £1.3 million by its own staff last week, in the biggest stampede for high technology shares for a long time.

City institutions and private investors flocked to buy shares and the share issue was oversubscribed nearly eight times.

The striking price for the 10,400,000 shares offered for tender was 220p - 80p more than the minimum price of 140p. Even at that price the issue was 2.9 times oversubscribed. Logica has raised £8.5 million from the sale, and dealings start on the Stock Exchange today.

"This is a very significant result for the British software industry," said Len Taylor, Logica's managing director.

"We were particularly pleased that 650 of our staff bid over £1.3 million for shares in the company - now more than half of our staff have a stake in the company. The vote of confidence from the public is matched by an equal vote of confidence from our own staff."

Taylor said that there would be no dramatic change in the way the company was run: "We have always run ourselves along the lines of a public company and are used to having external institutional and staff shareholders."

Altogether 28,000 application forms were received, and only 6,300 were successful. In City terms, the flotation was an unqualified success. Peter Winkworth,

corporate finance director of Close Brothers, the company that handled the sale said: "There have not been many tender offers of this type over the past year, but we believe that this subscription is quite unusual."

Taylor does not believe that the minimum price of 140p was unrealistic. "We said all along that it was our intention to set it low because we wanted the tender process to work properly. We were confident all along that it would work well."

It is likely that other software companies will seriously consider following Logica's success. "I believe a number of other companies will be looking with great interest at what Logica has done," said Taylor.

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Action by BT unions hits five cities

INDUSTRIAL action by Post Office engineers to protest against the government's plans to privatise British Telecom spread to five cities on Monday. The POEU pulled out specialist staff in exchanges in Birmingham, Glasgow, Swansea, Liverpool and Manchester. About 43 members are taking part in Liverpool, 30 in Manchester and Birmingham, fewer than 10 in Glasgow and six in Swansea, in action designed to hit the electronic exchanges of big business customers.

BTG chairman

NEW chairman of the British Technology Group is Colin Barker, ex-finance director of the British Steel Corporation. Barker, aged 57, formerly with IIT, has to submit a corporate plan to Trade and Industry Secretary Norman Tebbit, following recent government statements that the BTG's "rescue" role was to be halted. Barker succeeds Sir Frederick Wood.

MCI finds UK

THE US long distance telecommunications carrier, MCI, is set up in Europe, with the UK as its base. The company is taking advantage of the deregulation of US giant AT & T and will have voice and data links across the Atlantic by the end of the year.

Junior is out

IBM LAUNCHED its low cost micro, the PCjr (junior) on Tuesday in the US. Two models are available and they will go on show in December with an entry level cost of \$669. Full production is scheduled to start immediately but no details of availability in the UK are being released. Further details on page 2.

Unions escalate action

by Nuala Moran

TELECOMS unions stepped up their campaign on Monday against government plans to sell BT to the private sector. This was in the wake of the failure by Mercury to get a court injunction against the POEU to stop the union blocking the connection of Mercury to BT's network.

The British Telecom Union Committee claimed that plans to sell shares to BT to foreigners are a threat to national security because of BT's vital interest to top secret defence projects.

The Department of Trade and Industry said it had no comment to make on BTUC's allegation, but pointed out that the final decision has not been made on selling BT shares abroad. The committee stage of the Telecom Bill resumed in Parliament this week.

Industrial action by the Post Office Engineers Union (POEU) was stepped up last week but some

heat was taken out of the situation on Monday when BT decided to delay sacking 19 engineers for refusing to cross picket lines until it knows the outcome of the POEU's national conference on November 7.

The POEU has called out all its members at Columbo House in London, the exchange which serves Whitehall and Buckingham Palace. Last Friday operators at the exchange supported them with a 24-hour strike.

The operators are members of the Union of Communications Workers (UCW), which says it will be calling further "guerilla" strikes to support the POEU. The two unions met on Tuesday to discuss tactics.

POEU members who work on international lines were called out of two telex buildings in London when it became obvious that telex was being used by firms to get round delays caused to interna-

tional telephone calls by union action in three international exchanges.

There are now around 2,200 POEU members off work. About 400 have been called out on strike and the rest "locked out" for refusing to sign pledges to work normally. A £1 per week levy of the POEU's 130,000 members will begin again on Friday.

A spokesman for BT said that "as far as BT is concerned the situation is that services are as normal."

Mercury, the private telecommunications company, did not get the injunction it was seeking against the POEU to stop the union blocking the connection of Mercury to BT's network.

Sandy Skinner, Mercury's marketing communications manager, said that Mercury was "very disappointed" with the result. Mercury is now considering whether or not to appeal.



CROOK... New boss.

and BT appoints a chief

by George Black

BRITISH Telecom has gone outside to find a chief for its commercial offshoot, BT Enterprises. It is to appoint Colin Crook, pioneer of micro networking.

Crook, until recently boss of Zynar, takes up the post of managing director next month.

The appointment comes at a time when BT's shortage of managers with commercial experience has been casting doubt on its ability to cope after privatisation.

Board member Michael Be-told the Institute of Personnel Management conference at Harrogate that chairman Sir George Jefferson was the only BT man to manage a business of significance.

Crook will therefore be a vital asset to Jefferson in his bid to make BT a viable private sector company. He made his name as director of MPU Operations at Motorola in charge of the advanced computer systems project that led to the 68000 chip.



BRITAN... Warned.

French terrorists hit Sperry

by Jack Gee

A FRENCH terrorist group that makes a speciality of attacks on computer installations wrecked the offices of Sperry Univac in Toulouse, south-west France, in a fire raid, which the attackers linked with the American landings in Grenada.

"Reagan attacks Grenada," was scrawled by the arson squad in a message left at the building.

"Sperry, the multinational, is an accomplice," it finished. The signature was CLODO, French acronym for Committee for the Liberation and Hijacking of Computers, which has a long history of computer fires and bombings.

The fire at the Sperry building wrecked seven offices and an adjoining flat. All the rooms were unoccupied when the raiders arrived at 4.30am.

Sperry has already been the target of an attack which took place in 1979 on its Toulouse headquarters. Then the raiders left a message describing themselves as "the Communist Party's sharpshooters".

However, police believe the same gang of computer terrorists has organised the series of attacks on data processing firms in the Toulouse area and Paris over the past four years.

In January 1983 CLODO

claimed authorship of a bomb attack on the French government's data processing centre near Toulouse.

Officials fear that CLODO may now cause widespread havoc, following the American intervention in the Caribbean, on a scale comparable to earlier waves of terror that have swept French computer centres.

Then, an IBM computer was wrecked in a Toulouse bank. Data processing centres operated by Philips Data Systems and Cii-Honeywell Bull were also bombed, and a shop run by ICL was burned down by the terrorists.

Honeywell joins Nippon in top-end mainframe deal

by John Kavanagh

HONEYWELL has teamed up with Nippon Electric in a deal which will give the US firm a new top-end mainframe designed and built in Japan.

At the same time, the companies are working together to produce a successor, and a similar agreement is being negotiated between NEC and the French manufacturer, Cii-Honeywell Bull.

The deal gives Honeywell distribution and manufacturing rights to NEC's S-1000, which is 40% more powerful than Honeywell's biggest machine, the DRS 86. Honeywell has no immediate plans to take up the manufacturing rights.

This agreement is a reversal of contracts between the two companies which date back to 1962

and which expired at the end of last year. Those agreements gave NEC the right to build Honeywell machines.

"As a result of our close contact our systems are similar but not identical," Honeywell said. "We are now working to integrate the NEC S-1000 with Honeywell's GCOS-8 operating system. We expect to have it running by the second half of 1985."

The US firm said the S-1000 would not take it into new markets but was aimed at its existing customers.

"We are not under pressure from users to provide a bigger machine but the S-1000 does give them another system to grow to," the company said.

Honeywell as a result of the agreement.

The S-1000 was launched in 1980 as the world's most powerful general-purpose mainframe. It runs at between 15 and 54 million instructions per second.

NEC is also working with other big Japanese computer manufacturers on a supercomputer. This is expected to be announced in 1986. Honeywell said it was not interested in the project as the machine would be for the scientific market.

This agreement is one of several between Japanese and western computer companies in the last two years. ICL is basing its next range of machines on Fujitsu technology. Sperry has an agreement with Mitsubishi and Matsushita is negotiating with IBM.

AT&T gets profit drop shock

by Philip Hunter

AMERICAN Telephone and Telegraph, the world's largest company and the main US telecommunications firm, last week reported unexpectedly bad third quarter financial results. Profits slumped by 28% despite a 5.3% increase in turnover.

Chairman Charles Brown blamed the cost of preparing for the company's break up at the end of the year for the profit decline.

This charge would cover the writing of assets to cover the depreciation in the value of AT&T's telephone equipment, and meet further costs of reorganising the company as required by the 1982 settlement of the anti-trust case with the US government.

The company's turnover was up from \$16.6 billion in the 1982 third quarter to \$17.5 billion for the three months ending September 30, 1983, but profits fell to \$1.46 billion.

This means that IBM, which is likely to come increasingly into direct competition with a deregulated AT&T in the next few years, is now almost as profitable. IBM's third quarter profit was \$1.3 billion.

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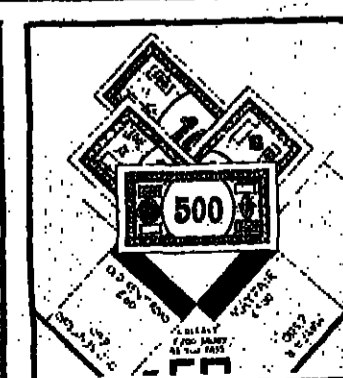
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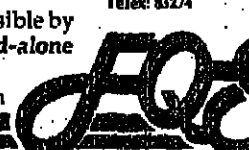
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Cable sale tactics show the way for BT

by George Black

THIS government has taken unusual steps to stop Cable and Wireless falling under foreign control when it sells "about half" of its remaining 45% in the booming telecommunications concern.

The tactic gives a pointer to how ministers may seek to keep British Telecom in British hands, despite their widely-publicised efforts to interest Japanese and American investors in buying slices of it next year.

The Treasury's Financial Secretary, John Moore, told the House of Commons: "The directors of Cable and Wireless are recommending to shareholders that they agree to issue the government with a special share."

This would enable the government, irrespective of the size of its own shareholding, to ensure the continuance of those provisions in the company's articles of association that limited the shareholdings of individuals and parties acting in concert to not more than 15% of the issued ordinary share capital. The mechanism of the special share is clearly designed by the government to prevent stealthy predation by giant overseas corporations such as AT&T - but it could be applied equally in the case of British Telecom, thus defusing one of the objections by the engineering union, the POEU, to its privatisation.

Moore rejected the fears of

Labour's Peter Shore and Harry Ewing that Cable and Wireless might still not be safe from a foreign takeover.

The government's announcement is also a clear signal that it thinks the Hong Kong sovereignty issue is likely to reach a satisfactory solution. Any worsening of the dispute between Britain and China over the colony would cause the share issue to flop, as Cable and Wireless made over half its profits there last year.

In March this year, it committed itself further by spending £143 million on a 34.8% stake in the Hong Kong Telephone Company, a sister company of the vast Jardine Matheson trading group. The sale is expected to take place during the financial year and could raise more than £250 million. The SDP spokesman Ian Wigglesworth, called it "selling the silver to pay the household bills".

From the government viewpoint, Cable and Wireless has proved the jewel in the crown of the privatisation strategy. Since it sold off 49% in November, Cable has turned in a pre-tax profit of £97.7 million in the year to March 1982 and £157 million in the year to March 1983. Both of these results were way beyond the most optimistic forecasts of the City.

Now the great unknown element in its future is the fate of Mercury, BT's private rival, of which BT owns one third.



HEYWOOD... "We're neutral about Uniplex and Xenix."

Unix alliance to attack US

by George Black

A NEW British partnership announced last week could challenge the Americans in the market for Unix software on micros, predicted to boom next year.

The deal is between newly-formed Aston Technology, set up by ex-Wicat manager Graham Gough to promote a low-priced 68000-chip machine, and the Redwood software house of St Albans, one of the first aboard the Unix bandwagon.

Aston is to adopt Redwood's complete applications suite with its Unix System 111 operating environment.

Aston's Crystal machine, assembled in this country, will use as many British products as possible, promised the firm's marketing communications manager Kim Jones. Aiming to undercut the IBM-PC and others, Aston is offering a wide choice of operating systems, including Pick and CP/M, but the addition of Redwood's Unix suite should strengthen its claims to be taken seriously.

Redwood and rival Precision were the two British front-runners in writing Unix programs. Redwood's Tony Heywood has planned with Tamsie Gendler to leave Zilog and set up the Unix software publishing company Sphinx - but in the end he decided to start a business without using venture capital.

When Redwood completed its first system, the Uniplex was processor, Sphinx agreed to market it.

Now Heywood's team of 11 have assembled a range of products to go with Uniplex. It includes a relational database management system from a GBC subsidiary in Phoenix, Arizona, and a spreadsheet from Software Innovations of New Hampshire.

"We're neutral in the debate between Root and Logica about whether Uniplex or Xenix is going to be the dominant form of Unix," commented Heywood. "It doesn't matter to us which is the winner because we're providing systems suitable for all applications anywhere."

Aregon pioneer workstation goes on market

by John Kavanagh

AN OFFICE workstation which began life as an Open University project will be brought on to the market on November 17 by Argon International. Last week the Excom-100 Communications Centre won the company the British Computer Society award for the best application of computer technology.

The Excom-100 grew out of the Cyclops data processing and viewpoint terminal with light pen input. The Cyclops was developed at the Open University with £85,000 of British Telecom backing.

In 1981, Argon negotiated the marketing and manufacturing rights and built 25 Cyclops terminals for the university. They were

used as "electronic blackboards" for remote teaching.

Aregon has upgraded the product since then, putting in a Motorola 6809 processor and 256K of memory. The display offers a resolution of 640 bits by 480. External attachments include a graphics tablet and a cassette recorder but no discs.

Orders for Excom-100 before the launch have come from universities in Indonesia and from the Civil Aviation Authority, which is installing 35 in Prestwick air traffic control to display information such as weather maps and runway layouts. These terminals will be linked to an Argon IVS-3 viewpoint system.

There were three other winners of British Computer Society

awards. The social benefit award had two winners: the local authority consultancy Lamsac won it for implementing a population census statistics package on 16 makes of computer for 158 national and local authorities.

The Scottish Poisons Information project won it for a viewpoint data system based on Honeywell Incolet equipment, which makes information about poisons readily available to doctors. Previously the 5,500 annual enquiries were handled manually.

The other winner was Systems Designers, which gained the technical achievement award for its Perspective project control software.

There were about 36 entries for the awards.

Peanut is limited to America

by Keith Holder

"THE newest, most affordable computer" is IBM's description of its long-awaited \$669 PCjr, the company's entrant in the low computer stakes.

It has been launched in the UK and Canada and will go on sale with 1,000 IBM dealers and product houses in December. There are no plans to bring it out in the UK yet and a spokesman said that although initial production had already started supplies would be limited at first.

Two models are available, a 64 KByte system unit with keyboard which runs cartridge programs only and a 128 KByte version which uses cartridges or diskettes. Optional extras are a thermal printer, joysticks for games, and an internal communications device which will allow the computer to link up with other computers through telephone networks.

Both machines are based on the same 16-bit chip the Intel 8088 used in the IBM PC.

The keyboard has 64 keys which may be programmed by the user to allow key commands and strings to be input by a single keystroke.

It uses an infra-red beam to connect with the computer, which can be up to 20 feet away, and a battery powered.

There are around a dozen programs available for the machine at the moment covering word processing and communications. A spokesman said that plans were already afoot to expand this and hundreds of the programs for the IBM PC would run on the PCjr.

CCTA attacked over high costs

by George Black

THE cost of writing software for the government is much too high, according to leaders of the UK's computing services industry.

Last week they forcibly made the point that the cost of preparing tenders for the government was "excessive" to John Winup, deputy director of the Treasury's official technology procurement body, the Central Computer and Telecommunications Agency (CCTA).

Winup pointed to recent concessions won by the CCTA for the services companies in getting government departments to put up part of the money for technical design studies. But he was told the CCTA needed to go much further to lift the huge burden of tendering for turnkey computer systems.

Chairman of the Computing Services Association's (CSA) turnkey group, John Cadge of Fraser Williams, said: "The cost of tendering for government busi-

ness is still much higher than it needs to be, much higher than it is in the commercial sector, and it leads to business where we must take much higher risks than we would elsewhere."

He likened the government's attitude to asking an architect to give a fixed price for a job without being told how many rooms were needed in the building.

"We're still being asked to commit at too early a stage, despite the CCTA's recent success at getting the costs of pilot studies shared with the end-user," said Cadge.

His message was strongly backed up by Peter Partridge of Dana Logic, who gave advice to delegates at the seminar on how to win business with the government.

The CSA is pressing the government to spend more with the service companies to match the policies pursued in the US, Japan and France.

"The volume of business is woefully inadequate. You can count

the number of turnkey jobs from the government in a year on two hands. We're getting further and further behind in implementing new technology," said Cadge.

Winup, in a lively panel discussion, replied that user departments were not prepared to fund technical design studies 100% because they saw them as part of the normal sales function. He admitted there were some shortcomings in the system, but argued that it had been improved.

But a number of voices at the seminar called for a more radical approach to the whole question of public sector computerisation, arguing that it was time for the government to start taking its own medicine.

The CSA is trying to convince the government that it is not getting the best systems for its own use at present, because bright ideas that come up during design are only taken into account if they make the programming cheaper.



CADGE... "Government tendering is still too high."

Team set up to beat smuggling

by George Black

A SPECIAL team of 12 has been set up in London to monitor high technology exports that could fall into the hands of the Eastern Bloc. The Customs and Excise department said its new investigation division would consolidate and intensify its commitments to Cocom, the NATO co-ordinating committee which controls sensitive trade affairs.

The government's strengthening of the anti-smuggling effort comes a week after links were revealed between a man charged in California of spying offences and the British National Enterprise Board (NEB). The man who faces indictment for selling restricted information on US defence systems to Polish agents is said to have used an intermediary called William Hulse, who once did work for the NEB.

The NEB and its chip-making subsidiary Immos both quickly denied that Hulse could have had access to state-of-the-art secrets. But the decision to boost security seems deliberately timed to quell possible criticism that the British government is lax about leaks.

UK firm launches rival to IBM PC

by Keith Holder

A UK company has launched a £400 rival to IBM's Personal Computer, and claims to have already taken 6,000 orders in Continental Europe. It will be on sale in the UK in January.

The IBM look-alike was designed by Advance Technology of London, and is already in volume production. Ferranti is producing the machine for Advance at its Oldham factory. In addition, Ferranti is giving financial guarantees to help the initial sales drive.

The low price tag "is to show people how over-priced personal computers are," said Advance's managing director, Jack Dangoor. "The manufacturers are really taking people for a ride," he said.

Dangoor claims the machine will run virtually all IBM and third-party software designed for the PC, and is 40% faster. Called the Advance 86 "A", it uses the same form of Basic as the IBM machine, and is compatible with IBM peripherals, including the 370 mainframe link, according to Dangoor.

It is based on the Ferranti 8086 16 bit chip, and features 64 Kbytes of ROM, 256 Kbytes of RAM, 16 colour graphics and speakers. A second "B" version is available with 768 Kbytes of RAM, two floppy disc drives and the ability to run Wordstar and Supercalc.

"B" version costs £1,200, and the basic £400 model may be upgraded for the exact difference in price between the two.

"I don't want to penalise people who come in at the bottom end," explained Dangoor.

The machine is the first attempt by Dangoor to design a computer, though he admits that he had some help from Ferranti. The project took just 18 months from start to production.

Continental distributors got a headstart on sales because they "jumped the gun," according to Dangoor. They showed advance examples at exhibitions before the official release date, and the response was "overwhelming" said Dangoor.

Production is currently running at 2,500 per month, though plans are in progress to double this.

IBM talks with French

by Jack Gee

IBM and France's state-owned Compagnie Generale d'Electricite (CGE) have revealed that they are holding preliminary talks which could lead to joint manufacturing and marketing ventures in data processing, telecommunications and other high technology areas.

IBM, whose subsidiary IBM-France already makes up the biggest profits and turnover in the French computer industry, could now look forward to extending its markets in France and elsewhere.

But they fit into the pattern already set by the world's leading telecommunications and computer groups which are joining forces in readiness to devise the next generation of telephone switching systems in which data processing will play an increasing role.

IBM earlier this year called off an arrangement with Mitel for development of the Canadian firm's X-2000 PABX. Then the company bought a minority interest in California-based Rom, one of the world's biggest PABX makers.

CGE, which has recently acquired what amounts to a monopoly role in the manufacture of digital time division telephone exchanges in France, could hope to

boost its sales in parts of the world where IBM is strongly installed. Through its subsidiary Cit-Alcatel, CGE is selling switching systems to 33 countries and controls 30% of the international market.

IBM and CGE executives stress that the talks now under way are only a starting point and are not fully-fledged negotiations.

CGE's CIT-Alcatel offshoot is looking for foreign partners in telecommunications ventures following the parent firm's exchange of assets with Thomson-Brandt, France's biggest electronics group.

CIT-Alcatel has teamed up with Philips in mobile radio and has got a French government go-ahead to build electronic typewriters - with the possibility of moving on to full-scale office automation systems with Italy's Olivetti.

The talks between IBM and CGE could mean a serious challenge to American Telephone and Telegraph Co., and Philips which have formed a joint telecommunications venture. It could also undermine the potential of an alliance between Olivetti and CGE. More serious still for French industry, it could leave the ailing, state-controlled Bull group, the biggest in France, in dangerous isolation.

Wang picks its words

WANG Laboratories has picked up the worldwide electronic publishing rights to some major reference books through a merger with Dictionix. The Concise Oxford English Dictionary and Roger's Thesaurus are among the standard

reference texts which will now be linked in with Wang's office automation software.

The merger is between Dictionix and a wholly-owned Wang subsidiary, Wang Electronic Publishing Inc.



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Law will protect immigrant data

by our Parliamentary

Correspondent

THE House of Lords has wasted no time getting back into the report stage of the Data Protection Bill after the long summer recess. The Bill's opponents have at last wrung one major concession, with Home Office Under-Secretary Lord Elton confirming that data concerning immigrants would be protected after all.

The controversial proposed exemption for data held for immigration control is to be taken out of Clause 28, Elton said.

Data held for the purpose of prevention of crime, however, would still be exempt from protection, Elton added. But if this was not the case, the data would now be subject to the full rigours of the Bill as a result of government amendments, in the same way as data held for personnel management.



ment.

Labour peers welcomed this belated decision to remove a blot on the Bill. The Opposition was less successful in its attack on other parts of the Bill, with Elton sparring in his concessions.

Elton did, however, move a

government amendment to tighten up on the subsidiary use of data held for payroll and accounting purposes. He made it clear that there would be an obligation to ensure that the data was not used for purposes other than payroll accounting, preparing statistics, or certain categories of research.

Elton resisted further attempts, prompted by Lord Digby, to provide a data protection advisory committee to advise the Home Secretary on enforcement of the Act.

Elton also repelled demands for codes of practice to be written into the Bill. He was reluctant to admit that the government had really been wrong to try and exclude immigration data from protection. It was not racially discriminatory to do so, he insisted, because it applied equally to all people.

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CW3/11

Union slams the Thatcher method

by John Riley
A UNION report published last week slams the government's high technology policies for lack of direction, insufficient government-funded R & D and shortage of scientists.

The report, published by ASTMS (the Association of Scientific, Technical and Managerial Staffs), follows the government's rejection this summer of the House of Lords Select Committee's report on engineering, research and development, which called for a national strategy for innovation.

The main argument is that the government wants industry to set the pace for innovation and come up with the necessary cash, while the union wants a government-fostered collective research programme somewhat along Japanese lines.

"Only industry has the intimate and detailed knowledge of the

markets and opportunities and can take the decisions needed," was the government's answer to the call for a national strategy for innovation in the House of Lords.

"The government has a collection of policies but no strategy," reports ASTMS in its report. "Decisions about R & D cannot simply be left to industry alone. The present extent of government funding, the influence of government as a major purchaser of technology, and its essential role in backing up any international developments quite simply makes a nonsense of the government's present attitude."

The union calls for the creation of a "separate Ministry for Science and Technology" to develop a strategy. It also wants more public money for research and development which it believes should come from the defence R & D budget. It also wants the g/vern-

ment to use its role as a purchaser to "assist the diffusion process of new technologies".

It demands more scientific training, particularly in the technological universities, and accountability for the public support it considers necessary.

"The government is leaving us to slump into a slow decline," said ASTMS' national officer Tim Webb. "The private sector manufacturers won't take any initiatives without guidelines from the government. Defence is the main drain on engineering R & D, and more cash for industry should come from the defence budget."

"The Maddock Report (to the National Economic Development Office earlier this year) showed that there is little spin-off from defence R & D into the commercial sector, and Michael Heseltine half recognised that when he announced recently that small com-



WEBB... "The government is leaving us to slump."

panies could sift for useful ideas in MoD programmes."

The report, the first of several, is designed to illustrate a constructive concern by the union for the future of Britain's high technology industries. Len Wells president of the union, hits out at unions being "unfairly associated with negative attitudes towards the development of the British economy."

Wells adds: "We are able to show that not only has Britain failed to invest in research and development but that we have failed to develop a strategy to use properly our existing resources."

The *Leading Edge* - an appraisal of Research and Development in UK Engineering, price £1. ASTMS, 79 Camden Road, London NW1 9ES.

SALES BRIEF

Marconi sells BT routing equipment

MARCONI Communication Systems is supplying British Telecom with routing equipment worth £3.5 million following joint development between the two organisations. The contract involves the supply of 55 Ace systems and two control centres to enable BT to monitor digital leased lines in the KiloStream service from National Control Centres.

Measuring flow

THAMES Water Authority has lodged a £120,000 contract with Automation and Technical Services of Haywards Heath, Sussex, for a system to monitor the flow of water in a tunnel under the Thames. The equipment will also allow remote control of pumps, and includes a message distribution system.

Gas buys Amdahl

BRITISH Gas has taken its third Amdahl mainframe, this time a 2 Mbyte 5860 worth about £1.8 million. The machine replaces a 470V/8 model to cope with the growing regional teleprocessing network. By 1986 there will be 2,000 terminals hooked on.

STC supplies

BRITISH Telecom has chosen STC to supply a batch of transmultiplexers, which enable digital transmission equipment to work alongside the existing analogue network. STC is supplying 12 transmultiplexers, which will be used by BT to provide alternative routing on international calls transmitted via satellite.

Testing space

COMPUTER Technology, which heads the UK challenge in the market for fault resilient hardware, is to supply computer based testing equipment for use on the development of terminals for the European Space Agency. The contract, worth over £100,000, was signed with the Milan-based Laben organisation, which is involved in all major ESA projects. The contract involves development of high speed links to enable satellite data to be processed in real time.

Energy at Home

HOME Automation has ordered a Nixdorf 8870 computer to handle accounting and production control as it extends its business from the lighting control systems market into energy management. Customers for the company's energy saving systems include Lloyds Bank, Renault and the Abbey National Building Society.

Tobacco network

IMPERIAL Tobacco is linking up nine of its UK offices with network controllers and software from STC Business Systems, in a £200,000 contract.

Protel boosts

PROTEL Computer Systems, UK supplier of computer-based support products for the television industry, has boosted its US business with a £700,000 order. The company has set up a new subsidiary in New Jersey to provide technical support for its products in the US.

Swedes beat UK in teletex race

by Donald Keanett
SWEDISH-owned terminal supplier Ericsson Information Systems has beaten the UK government-sponsored teletex promotion initiative by becoming the first company to get a teletex terminal approved for attachment to British Telecom's networks.

As late as last month, a Department of Trade and Industry newsletter proclaimed that subsidised, half-price teletex equipment would become available on October 1 from four UK manufacturers - Ferranti, GEC, Plessey and Standard Telephones & Cables. But despite having been shown or pre-launched at exhibitions throughout the year, none of the UK-made systems has yet been approved.

Meanwhile, Ericsson's Eritex 10 terminal gained BT approval last week after being checked against the 125 items on BT's list of requirements. Requirements include

being able to print all 309 characters in the international teletex character set, and notifying the user of any unsuccessful attempt to deliver a message.

Market development manager Martin Hunt said: "We won't be marketing the Eritex 10 heavily initially, because we don't think there'll be an enormous market for teletex until the telex interface arrives in the middle of next year."

Alterations might have to be made to systems on the market after they have tried working together," he added.

"Incompatibilities will emerge as we go along," he said. "We hope they will all bed down by the time the telex conversion facility is installed. Then the market will really open up, because you will be able to reach all the telexes in the world."

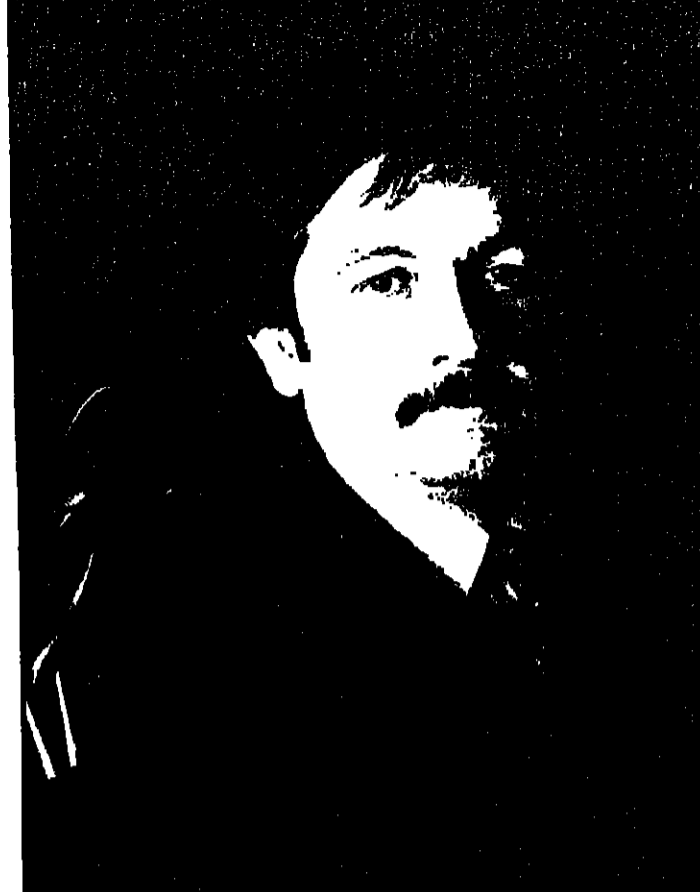
"Teletex is undoubtedly a big market. My belief is that it will become a standard in relation to

text transmission, both within and between organisations. Initially we'll be looking for pilot installations in large companies that want to use it internally."

"Telex has a tremendous reputation for being able to send reliable messages, including money transfers. Teletex has to obtain the same reputation. There are plans somewhere to integrate it with Group 4 facsimile to send signatures, logos and graphics, but there are no standards yet."

Ericsson has been selling teletex terminals in Scandinavia and West Germany for two years. The Eritex 10 is based on the company's electronic daisywheel typewriter, which has won 9% of the UK market.

Managing director John Bunce said that in the two years since it was set up, the UK division of Ericsson Information Systems had boosted its turnover to £20 million.



BUNCE... "Next year turnover could reach £33 million."

Paradyne charges for fraud

by Howard Karten
THE case of Paradyne, which started some months ago with government accusations of fraud by the company, refuses to die a seemingly death.

In the latest installment, Paradyne recently charged staff members of the Securities and Exchange Commission (SEC) with fraud, trickery and deceit for their actions in pressing the suit.

The Florida manufacturer of communications hardware, in response to SEC suits against it, charged that SEC members had fabricated evidence, divulged company confidential information to competitors and attempted to coerce SEC staff members.

Nor is this the only source of problems for embattled Paradyne. The company recently reported its third quarter earnings at four cents a share, compared with earnings of 32 cents a share for the comparable period last year.

Those earnings are on net income of \$804,000 for the third quarter this year, as against earnings of \$7,041,000 for the same time last year.

Personnel project gets £1/2m

by George Black

NEARLY £1/2 million is being invested in a project to develop a micro-based personnel management system which will rival several established systems currently running on mainframes and minis.

The money is coming from the Trade and Industry Department's software products scheme, the British Technology Group, and Barclay's Bank, to fund a research and development project headed by two ex-Bank Xerox men. They are former UK financial controller Richard Coon and information services manager Geoff Lancashire, who with John Angel, a solicitor specialising in employment law, has set up a new software company in London.

Called Percom, it aims to bring its system to the market early next year with the aid of a programming team of eight. The program is designed to run on the most popular 16-bit micros, the IBM-PC and Sirius, but is also configured for any machine supporting the standard micro operating systems CP/M, CP/M 86 and MS-DOS. Angel said it would be suitable for any firm of over 150 employees and that the first modules to be completed were already in use by a number of nationalised industries and large British companies.

"We hope we'll be leading the field, because we don't see many rivals in the micro market with personnel management systems," said Angel.



GLYNN... "We're getting out of smokestacks."

American Can goes soft on Pick

by Claire Gooding
THE Pick operating system has arrived on IBM mainframes and is providing the launchpad for American Can UK's new software business. At Comdex last week, American Can announced that its new subsidiary, Trifid Software, would be selling manufacturing software based on the Pick system.

In addition, Pick Computer Works has released its long-awaited implementation of the system for IBM's 4300 mainframes. This opens up a much larger market for American Can UK's new division, which is selling its Trifid package at medium to large-scale industrial and commercial businesses.

American Can UK is spending £7 million in an effort to diversify from its traditional base of manufacturing cans and packaging into such areas as insurance. About £1/2 million is going towards Trifid, which heads AC's push into the services industry.

"We are not 100% in smokestacks any more," said chairman

Maurice Glynn. "We've been given carte blanche from the president of American Can in the US, William Woodside, to spend whatever it takes to get this product to market quickly."

"We have an enormous amount of experience in manufacturing, and we know what efficient data processing can do for a company. There has to be a change in the attitude of management - the manager has to believe in the value of real time computing. Our biggest single message is, stop playing around with administration of your businesses, and start managing," said Glynn.

The Trifid package is aimed at getting manufacturing systems out of batch mode and into the hands of users, so that managers control their own data interactively. Trifid chose the Pick operating system, and the software built on top of it by Systems Management Inc because of its user-friendly facilities.

"We've taken school-leavers off the streets and within three days they know exactly what they're doing," said Glynn.

Arbat pulls out of DEC authorised scheme

by John Kavanagh

ONE of Digital Equipment's 12 authorised computer distributors in the UK has pulled out of the official scheme - just as the two sides were making peace in a long-running dispute over competition in the user market.

Arbat, formerly a UK firm but taken over this year by Control Data, says it sees no benefit in the "authorised" tag. The company will still get hardware discounts because it is staying an official DEC OEM.

Last month, DEC announced incentives to encourage its sales force to work with the authorised distributors to win orders, not against them. This was described as a major concession by distributors, who had threatened to go to other suppliers if DEC continued to compete with its outlets.

At the same time, DEC urged the distributors to go to specialised markets rather than sell general systems such as accounting packages. But Arbat - the most specialised of all the distributors - is now leaving the official scheme.

"We see no advantage for Arbat in being an authorised distributor," said Harris. "We are in a very specific market so we don't need help with promotion or use of the DEC logo, which the scheme provides. And we can get the same discounts as an OEM."

Harris said there had been no quarrel with DEC and no pressure from Control Data, despite the fact that the US firm partly owns System - which builds systems using DEC processor boards. Arbat would continue to buy all its processors and peripherals from DEC, he said.

Other authorised distributors disagreed with Arbat's move. "I can only see advantages in the scheme," said Paul Heron, a director of Coulson Heron Associates.

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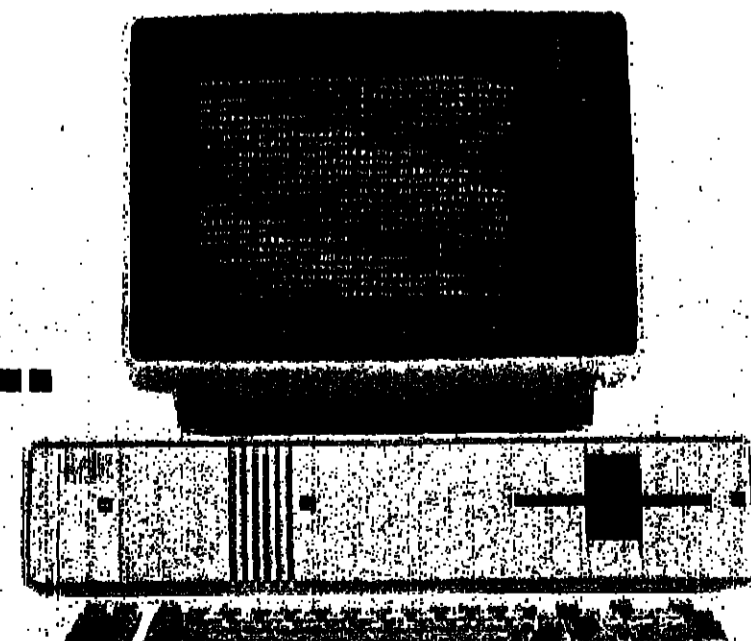


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Scicon is switching messages

by Donald Kennett

SCICON, the computer services subsidiary of BP, has developed a standard message switch for operators of large and complex networks.

The system, the TD (text and data) Exchange, was launched last week at Telecom 83 in Geneva, following a two-year joint development with a major Swiss customer, the Berne-based facilities management and network services company, Radio Suisse.

The product takes Scicon out of turnkey project development, while still enabling it to serve the large systems market.

One of the major advantages claimed for the system is its ability to combine data links between computers and terminals with the telex and telegraph lines traditionally used for text message traffic.

"That's why we call it a text and data exchange rather than a message switch," said message switching division manager Penny Jackson.

Scicon has been in message switching for 14 years, selling systems purpose-designed to users' requirements. Customers included Cable & Wireless in Jamaica and the European Broadcasting Union. But the last turnkey sale - to DuPont de Nemours - was made five years ago and the company realised that custom systems were becoming uneconomical to build.

Two years ago Radio Suisse put out a tender for a system to support the latest generation of its Datacare private network and facilities management service. Scicon was chosen from 12 international companies, and Berne-based



JACKSON . . . "That's why we call it a text and data exchange."

Radio Suisse became a partner in the development of the exchange. On launch, its first installation is already working, and a second system installed at Caterpillar in Geneva.

Further orders worth more than £500,000 have been won, including three more for Radio Suisse - which will replace earlier systems based on Sperry equipment - and one to support an enlarged network at DuPont.

Scicon's deputy chief executive, Paul Pearson, now expects sales to build up to a system a month by the end of next year, contributing

Council gives free use of viewdata

by Nuala Moran

ROCHFORD Council in Essex is the first UK local authority to use viewdata to provide information free to the local community. Called C-View, the system is based on the council's ICL ME29 computer.

It was set up with £30,000 provided by the Manpower Services Commission.

The technology is similar to British Telecom's Prestel, but it uses ICL's Bulletin software. Television sets to access C-View will be put in 10 public places in Rochford, such as sports centres and council office reception areas.

Essex radio will have a set in its foyer as part of its action desk and anybody with a viewdata TV set or a micro with a viewdata adaptor

and a telephone will be able to access C-View on Southend-on-Sea (0702) 546373.

C-View is also compatible with cable TV, so it could be linked to every home on a cable TV network. The council is looking at expanding C-View to take in electronic fund transfer, electronic mail, shopping by TV, educational programs and games.

Other councils in Essex have shown an interest in C-View. Dave Symonds, deputy director of computer services at Rochford, said: "Other local authorities in the area have asked if they could use the system. I think that C-View could soon grow to take in the whole of Essex."

When the system first goes up it will have about 2,000 pages of in-

formation. These will include details of leisure, local business, council activities, education, farming, welfare, social amenities and jobs on offer the Rochford Southend-on-Sea Job Centres.

Symonds thinks locations such as sports centres will be very important as far as displaying jobs is concerned. "The important thing is the browsing facility. As well as jobs we will display youth training opportunities and careers advice information for people still at school."

Information was assembled by the council. It is producing a directory of over 700 subject headings.

It is also looking at the possibility of charging commercial information providers and at selling advertising.

Wang donates to charity

by Philip Hunter

WANG dealer ADS Computers has donated hardware worth £26,500 to one of its clients, the Charities Aid Foundation. The equipment, including a Wang VS 8021 computer, will be used to build a database of the UK's 100,000 active charities, and the foundation is paying ADS to write software to handle the information retrieval.

The system will enable donors to identify quickly the type of charity they want to sponsor, says the foundation's head of information services, John Bennett. It will

also speed the production of the foundation's directories listing all UK charities in particular categories, such as those that help stray cats in need.

The foundation is already a computer user, with a Honeywell Level 6 mini to process the accounts of the 12,000 donors it serves.

The interest accruing from donations, which totalled £21 million last year, funds the foundation. Big corporate donors, such as Marks & Spencer, have an account with it, which allocates the money as and when the donor wishes.

Money also comes in from one of the UK's 2,500 charitable trusts, which are served by the foundation in the same way as other donors. The trusts donate the interest from their capital, which may be held in stocks or shares.

Bennett points out that the foundation only handles a small proportion of the UK's total charity budget. Including money given to churches and organisations such as public schools and charity status, total donations are about £8 billion last year in the UK.

ICL lays off 200 staff in New York

ICL has laid off 200 staff at its DRS 20 assembly plant at Utica, New York. "Sales are not yet adequate to maintain employment at the level we had," said an ICL spokesman last week. "We've been overmanned there." The final stages of assembly of DRS 20s not destined for the US or Canadian market is likely to be transferred from Utica to Letchworth in the UK.

Diery promoted

IAN Diery, managing director of Wang UK, has been promoted to vice president for Western Europe, and will be responsible for Scandinavia, France, Italy, Ireland and Israel, as well as the UK. Since he became managing director UK in March 1981, Wang's UK turnover has increased from £21.1 million to £50.8 million.

Gould's system

GOULD Computer Systems, the American supermini maker, is the latest to take on Logica's Rapport relational database management system. Gould's customers will be able to use the software with RASQL, a query language similar to IBM's SQL. The agreement follows parallel ones with Prime, Data General and British Olivetti. More are on the way, says Logica. Rapport is already used on Gould hardware by Philips, British Gas and the European Space Agency.

Maestro rights

GERMAN software house Softlab is extending its marketing agreement with Philips Business Systems for the Maestro development system. Philips is to get the exclusive European marketing rights to the product until the end of 1987.

Maestro is one of the most comprehensive program development and office automation tools on the market and has been the main vehicle for Philips' 17,000 minicomputer. Four Phase Systems in the US recently announced Softlab's distributorship, and under the new agreement, Philips is to keep a grip on its UK and European rights to the product.

DEC releases

DIGITAL Research is pushing further into the business world with a source code translator which puts programs into Commercial Basic or CBASIC, and a high-performance version of the CP/M-86 operating system. CP/M-86 Plus is designed to supply an upgrade path for single users to Digital Research's Concurrent CP/M. The MC2Basic translator converts code from Microsoft's MBASIC and Digital Research's Personal Basic into Commercial Basic, considered to be more efficient for business.

DEC encourages micro shoppers

by Nuala Moran

COMPANIES are being encouraged to set up in-house micro shops in a scheme launched by Digital Equipment last week. The first of these shops is at BP's headquarters in London, and DEC is talking to more than a dozen other firms in the UK.

BP set up its microshop to make sure it does not end up with too many different micros in its offices. Chris Kent, microshop manager said: "The aim is to provide managers with an easy route for acquiring micros."

Four micros are available at the BP shop: DEC, IBM, Hewlett-Packard and Wang. These models were selected with an eye on future local area networks. Kent said: "BP already has a range of mainframes and minis which was the starting point in deciding which micros to stock. These four

manufacturers met the criterion of compatibility with the existing installed base. This makes it easier to dovetail systems together and link them to central databases."

The company already has 300 micros and word processors at its headquarters in the City, and about 100 of these have been installed since the microshop opened at the end of June. It is expected that by 1986 there will be 2,000 micros at the headquarters alone.

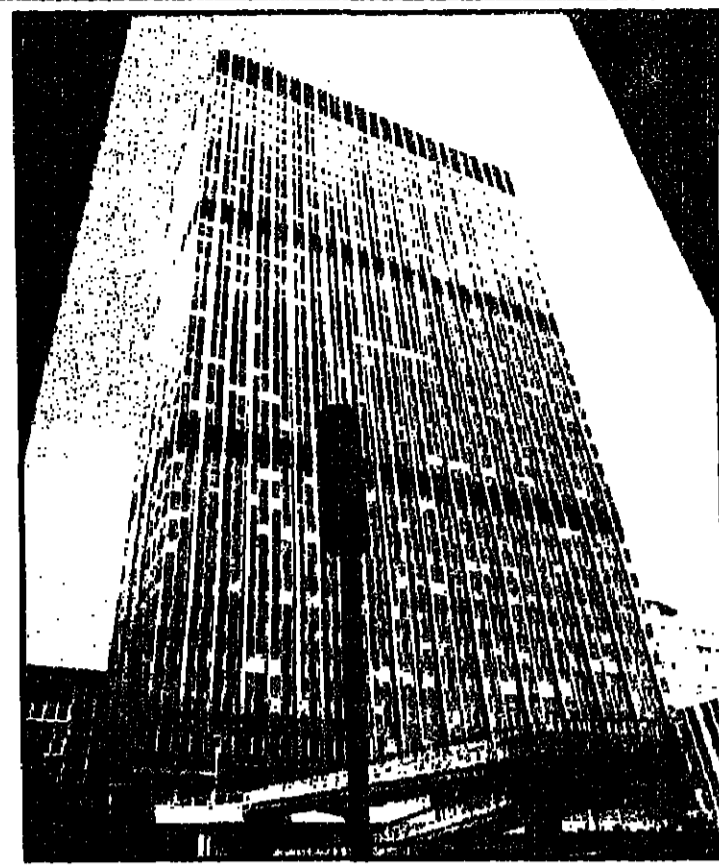
Kent explained how the microshop works. "We've not got internal procedures sorted out so we can do ordering in advance. The aim is to provide off-the-shelf service. In other words we're working very much as a dealer would. And although we have a more limited customer base we are closer to them."

Managers who are interested in

getting a micro call to the shop where they should see demonstrations and get advice on choice of equipment. The shop also arranges for equipment to be installed and serviced.

"If they are interested in more than one or two micros, we get them to think about office systems generally because there might be long term implications," said Kent. For example, BP is looking at local area networks at the moment. "BP is likely to have a series of LANs for its individual business streams," said Kent.

DEC intends to offer three levels of support to in-house shops according to how many micros a firm buys. At level one, it will just provide advice, at level two training and joint promotion, and at level three, all services and support. The shops are expected to carry software.



BP's head office in London - site of the first new Digital microshop.

Felixstowe is first with shipping network

by John Riley

FELIXSTOWE is to be the first UK port to set up a computer network to allow port authorities and shipping agents to keep track of consignments passing through it.

The first phase, to go live on December 9, will link shipping agents directly to Customs. Although Customs departments in several British ports already have British Telecom data entry processing systems (Deps) linked to the National Data Processing Centre's computers at Harmondsworth, customs officers currently have to enter the cargo data supplied by the agents.

From December 9 customs officials at Felixstowe will not need to enter such data themselves, and procedures will be speeded up with agents entering the data directly from terminals in their offices into the Deps system. Over 150 agents are expected to join the scheme and most will have interactive micro-based terminals.

The second phase of the Honeywell-based network will come into operation in July next year. This will comprise an in-

teractive online system containing updatable details of a consignments passage through the port.

The £1 million network, which is controlled by twin Honeywell DPS 696 super minicomputers, is based on British Telecom's Air Cargo Processing System (ACP 80), which keeps track of air cargo consignments at Heathrow and Gatwick airports.

The Felixstowe programme results from close collaboration between the port authority, Customs, and shipping agents, who have increasingly felt the need to streamline and rationalise their procedures in the face of rapid expansion of traffic.

"We have had frantic expansion," said port operations manager Robin MacLeod. "Cargo tonnage has doubled in four years and the administrative procedures were creating."

Keith Herbert, chairman of the project's policy committee and a top Customs official, said: "The project reflects the enthusiasm of the trading community to get it going, and will give savings both on the trade and customs side."

Job-losers form workers' co-operative

by Claire Gooding

A GROUP of people who lost their jobs in the computer industry have set up their own workers' co-operative to sell microcomputer systems. Backed by money from Haringey Council, Heartwood Technology started selling systems in April this year, and is well on the way to making a "modest profit" from this year's trading.

The co-operative venture started when Terry O'Sullivan, one-time southern area sales manager for

Zenith Data Systems, lost his job in Zenith's re-organisation last year.

"I looked around and realised that there were several friends in a similar position: we put a lot of thought into it before we formed a co-operative."

Four men and three women are involved in the co-operative, which is run by a central committee of three, under O'Sullivan's management. The group approached Haringey Council and

asked for money under the council's job creation scheme. Haringey gave Heartwood £1,000 towards set-up costs, plus an extra grant towards hardware.

The seven have all put their own money into the business, but whether their contributions are larger or small, all have an equal say in the company policy.

The company plans to move up-market in equipment with "supermicros" in the £2,000 plus range.

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Professional micro comes out of cold

by Claire Gooding

THE Professional microcomputer from Digital Equipment is coming out of the cold with a new operating system. The machine is now running a version of DEC's popular RT-11 operating system, called PRO/RT-11. This will enable it to run the myriad of applications written in DIBOL language which already exists throughout the DEC community.

The Professional has been limited to its native Professional Operating System (POS), which is only able to provide a runtime environment for applications developed on larger machines under the RSX-11+ operating system.

The rights to PRO/RT-11 in the UK and the UK have been supplied up by authorised DEC distributor Minicomputer Com-

mercial Software (MCS), which specialises in insurance systems for DEC kit.

"What we're doing is transferring DIBOL applications to run on the Professional," explained support and sales manager Philip Kirtin. "POS has been of negative value to the Professional - by utilising an existing operating system with a wealth of applications it becomes a more exciting product altogether."

PRO/RT-11 will allow the machine to fit into the DP environment far more easily, because it can link with another RT-11 host. The applications can be developed on the Professional itself

or on the larger linked RT-11 machines, to run on either machine. This means that the Professional released from its runtime-only status and can fit in with DP plans to integrate micros with mainframes and swap data between them.

"We realised the potential to send a guy out to look at it immediately," said Kirtin. "To our mind it makes the Professional into an ideal entry-level machine for small companies."

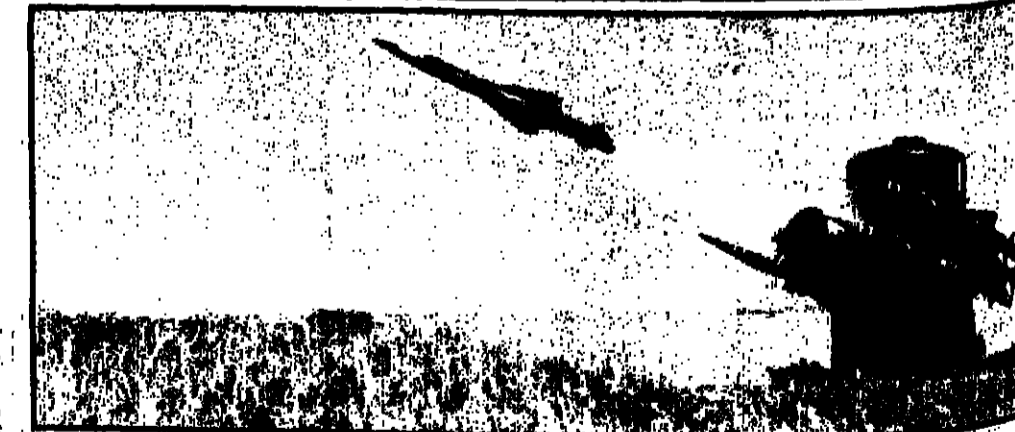
The PRO/RT-11 operating system is being sold for £900 and end users, and will be available to OEMs holding an RT-11 license from DEC.

Aerospace is developing system for the Rapier

by John Riley

BRITISH Aerospace Dynamics Group announced last week that it is developing a new military computer system for the Rapier ground to air missile system.

The system, called the MC4700, stems from a Ministry of Defence contract awarded to British Aerospace in 1982 to develop a general purpose, single board, 16-bit microcomputer which meets military standard specifications.



British Aerospace is designing a system for the Rapier.

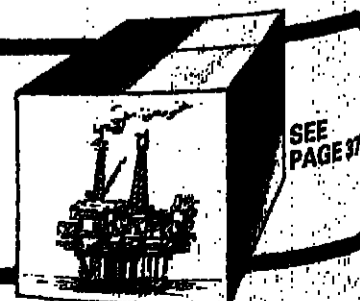
The MC 4700, which is also being supplied to Plessey and Marconi to run in their radar systems,

offers a dual serial (RS232C/423) interface card, 64 Kbytes of volatile and non-volatile memory cards

and a bus service card which gives bus arbitration, real time clock and four Kbytes of non-volatile memory.

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Navy plans a plain sailing systems guide

by John Riley

THE Royal Navy is to spend £320,000 to make sure that sailors can use computer systems and software easily. It will draw up a set of guidelines so that human factors can be integrated into the design of large military systems.

Industry will be consulted and stands to gain from the four-year project which is getting underway at Loughborough University. The programme is headed by top Navy psychologist Arthur Gardner, who is on secondment to Loughborough's Human Sciences and Advanced Technology Group (Husat) from the Admiralty's Applied Psychology Unit at Teddington, Middlesex.

"It sounds a lot of money," said Gardner, "but that shows how seriously the Navy takes ergonomics. The Navy recognises that human factors cannot just be tagged on at the end of the production cycle, but have to be a facet of the design process from the start."

Gardner was a member of a Navy project to draw up guidelines for physical ergonomics of computer systems some years ago, and the current project aims to comple-

ment that. "The present study will concentrate on man software interactions and on total system issues," Gardner said.

The first two years will be devoted to producing guidelines of requirements, drawing on experience from industry, as well as British and foreign armed forces. The second phase will test the guidelines out in practice.

"The Navy recognises that human factors designers are in short supply, so we will also concurrently be designing training courses to ensure a steady supply of them in the future," added Gardner.

Husat was chosen because it has close links with the computer industry and has already conducted research into ergonomics.

Gardner took pains to point out, however, that this was not a research project. "We are just concerned with getting the best ideas and putting them down on paper."

The Navy initiated the programme because "it has been involved with studies of computerised systems and has the biggest human factors research groups of the Armed Forces", said Gardner.



TONES... Says the grant will enable him to deliver early.

Welsh firm wins grant for council automation

by George Black

A WELSH software firm has won a £413,000 grant to speed up development of programs to solve the problems of local authorities.

BMSL of Swansea has been given the grant under the National Computing Centre's software products scheme, for a 3½ year project to automate the functions of the cash-starved councils.

The scheme could serve to introduce more competition into an area traditionally dominated by ICL. Sperry is now talking to BMSL about mounting the software on its mainframes.

The government is keen to comply with recent Common Market regulations on open tendering in the public sector. This could incidentally help it to make the cuts in local authority expenditure it so desperately needs to balance the books.

Until now ICL has had things much its own way, despite an attempt by Honeywell to gain a foothold using its own in-house software.

ICL's problems with software have so far not allowed its competitors to take business away from it. Sperry's entry into the field has been delayed by a joint scheme with IFT International to develop software which was eventually abandoned. Microdata (formerly known as CMC) has a number of local government installations.

BMSL, which looks as if it

could become a significant force, was set up by ex-ICL man Gwyn Jones three years ago and has returned in its first annual income of over £1 million.

In August, 15% of its equity was bought by an investment subsidiary of British and Commonwealth Shipping for £250,000 to inject more cash into the programming operation. And Jones already has ambitious designs to take his firm on to the unlit securities market in 12-18 months' time.

The impetus behind BMSL came from ICL's failure to win the difficulties of administering the direct labour organisations of local councils, following reforming legislation by the then Environment Secretary, Michael Heseltine. BMSL began offering alternative solutions to ICL's on its own hardware, as well as Honeywell's Digico and IBM's.

Since then, the field of local authority computer applications has been rapidly widening, to include housing benefits which were shifted to local authorities from the DHSS, waiting lists, council mortgages, rates and rents, environmental health, electoral register, and vehicle fleet management.

Jones says the NCC grant will enable the company to deliver all these systems to the authorities by March 1986 - a year earlier than requested.

Commodore is top

by George Black

COMMODORE has moved to the top in the international home computer market and will have pushed its share up to over 50% by the end of the year, according to the US West Coast business survey organisation, Dataquest.

Commodore, sometimes thought of as the least fashionable of the micro makers, has in fact improved its position since 1982 when it had only a 45% slice in terms of revenue. That income was generated from a notably lower percentage of units sold, indicating that Commodore was justified in its dramatic price-cutting exercise. The figures refer to machines priced below \$1,000.

"Commodore seems to be gaining and opening a gap," said a Dataquest spokesman in Cupertino, California. "Its nearest rival is Texas Instruments, but that is not doing nearly so well."

Texas's share is likely to drop from 26% to 20% by the end of the year and the number three in the league, Atari, will also see its slice cut down from 12%. Timex and Tandy were described by the Dataquest spokesman as "minor players" in the home computer section.

Retailer makes world deal

by Philip Hunter

COMPUTERLAND, the world's biggest computer retailing group, has struck a worldwide \$50 million deal with the UK arm of Canadian deal with the UK arm of Canadian Bytec to bring the Hyperion 16-bit portable micro into its product range.

Bytec will supply 1,000 IBM-compatible machines before the end of the year, and Computerland

says it expects to sell one Hyperion for every four IBM Personal Computers.

The European end of the deal was tied up by UK subsidiary Bytec. "This deal is a breakthrough into a worldwide market. It is just the first of a series of marketing developments," says Bytec's managing director George MacFarlane.

TELECOMMUNICATIONS

Telecom 83, the four-yearly world telecommunications show, attracted 650 exhibitors. Donald Kennett reports

French lead the collaboration fad

FRENCH state-owned electronics giant CGE (Compagnie Generale d'Electricite) has started talks with UK companies through its CIT-Alcatel telecommunications subsidiary. It is looking for collaboration on second sourcing the French PTT with digital switching technology, while gaining access to new markets on the basis of reciprocity between countries.

The company is also talking to the Germans - the government would only want one alternative technology - but believes that the symbiosis between Siemens and the Bundespost will make agreement difficult, a company spokesman said.

The French industry minister recently called for European collaboration and reciprocal procurement in telecommunications, and the EEC Council of Ministers is considering plans for harmonising

European network development.

The UK companies are GEC, Plessey and Racal. GEC and Plessey both make System X. Racal has no switching products, but has expressed a strong interest in the liberalised telecommunications environment and has formed partnerships with US companies to enter the cellular radio and cable television markets.

A growing number of collaborations of various kinds are being agreed between companies with complementary skills as traditional telecommunications markets are opened to outsiders and the pace of change heats up.

CGE and Thomson-CSF recently merged their telecommunications interests into one company so as to gain the size and the development resources they decided were necessary to face the still international competition coming from companies such as AT&T,

Philips, Siemens, LM Ericsson, Nippon Electric and Northern Telecom.

CGE has also had contact with IBM, although both companies say they are nowhere near an agreement (see page 3). IBM and British Telecom have also had talks believed to centre on network management, but which have yet to result in an official announcement.

The AT&T and Philips joint venture made its public debut at Telecom 83, reaffirming its plan to adapt AT&T's 5-ESS switch to international requirements, before going on to develop products locally for client countries.

Northern Telecom and Digital Equipment announced that they were continuing to work together on interface standards. A new agreement has been reached to enhance the X25 interface between DEC's VAX/VMS superminis and NT's SL-10 packet switch.



The Duke of Kent, who is vice chairman of the British Overseas Trade Board, toured the UK stand, where 60 companies were exhibiting with the support of the Board. He is seen here after being conducted round the exhibition by STC Telecommunications marketing director Richard Soper.

Nippon draws the crowds

NIPPON Electric drew large crowds as it demonstrated the progress it was making towards the dream of spoken language translation by machine.

NEC claims to have introduced the world's first connected speech recogniser in 1978.

The demonstration at Telecom 83 involved two speakers having a conversation in Japanese and English, and then in Spanish and English, with the machine doing the interpreting. The conversations took place at near-normal speaking speeds, but they involved limited vocabularies of only 150 words and speaker-dependent recognition techniques.

The equipment used included the DP-200 connected speech recogniser and recorded voice synthesiser, with the translation in between being carried out by dynamic programming routines running on an NEC APC advanced personal computer.

The company has been using the DP-2000 for about two years in data entry, stock control and inspection applications.

IBM's showcase hogs the limelight

A NEW display technology developed in the UK was one of the stars of the "technology cube" showcase on top of IBM's stand at Telecom 83.

The device, an electrochromic panel on a single 20 by 23 mm silicon chip, is a potentially cheap alternative to the cathode ray tube.

Developed at IBM's Hursley research centre in the UK, it generates a 320 by 300 picture element image with an eight-level grey scale by causing dots of electrolyte to change from a colourless state to purple when a voltage is applied to the elements on the chip's surface.

The image is enlarged and projected for viewing onto a screen using conventional projection techniques ("cleverly applied", according to one of the development team). The definition is crisp and the main limitation on how much it can be enlarged is the amount of heat that has to be removed as a result of illuminating the surface.

It would also be possible to use the same principle to make colour displays by using electrolytes that turned red, green and blue under different voltages, but the development has yet to be taken this far.

Other prototypes in IBM's showcase included an intelligent telephone designed for executives that is controlled from a touch-sensitive VDU. The screen can be used to hand write notes and messages into memory, or to transmit them, and the software provides a directory, a calendar, a calculator

and various menus of commands.

Another prototype, the Vision system, showed a video disc being controlled by an IBM PC, using a touch screen and a speech recognition to enter commands and speech synthesis as output.

The company also announced that it had produced a 512Kbit RAM chip experimentally, and 288Kbit chips regularly.

A major attraction on the stand was the first public showing of the token passing ring the company proposed early last year as a local area network standard. But there was still no hint of when it might go on the market.

In contrast to Ethernet, in which every effort is made to avoid having connectors or active components between any two stations on the network, the IBM token ring cable is full of places where continuity can be broken. But the network is protected from being disrupted by bad contact or by damage to any part of the cable by the ease with which individual sections can be reconfigured to bypass the break.

The reconfiguring is done in the "wiring concentrator", a device that appears to add enormous complexity to what should be a simple logical ring. But it is here that the key to the system's flexibility and resilience lies, because the ring runs out to each station and back to the concentrator box, enabling the station to be bypassed or reconnected to a completely separate network under the control of the logic in the box.



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SOFTWARE FILE

South Africa offers project management system to UK

A PROJECT management system developed in South Africa is to be launched in this matter in competition with the highly successful Artemis from Metier.

The system belongs to Critical Path Planning Services, which has set up shop at Crawley in Sussex. The software was developed in South Africa by Dan Beattie and Alan Fleischmann and is used there by around 40 firms, including Unilever and the mining organisation, Anglo-American.

Like Artemis it runs on Hewlett-Packard hardware and there are no plans to adapt it to anything else.

The package draws on Beattie's experience with the engineering firm, Foster Wheeler, in Johannesburg, where he was senior planning engineer. He has come over to the UK to promote the system, leaving Fleischmann in South Africa to look after the bureau service there.

The field leader, Metier, has built a strong reputation, achieving revenue of \$37.5 million



BEATTIE... "Metier has had things too easy."

worldwide last year, with over 300 installations. But Beattie feels that Metier has had things too easy for lack of serious competition. He claims Critical Path Planning Services will be able to offer better software for very much less.

Users have had to choose between micro spreadsheets which just can't do the job or bells-and-whistles systems which are far too expensive, he argues. His next step will be to appoint European distributors.

Scanner edges on fifth generation

by Claire Gooding
FIFTH generation techniques have come closer to commercial reality with the launch of SDL's database scanner, TSIP.

TSIP is a multi-user, interactive information retrieval system, which can search huge databases at very high speed. Unlike ICL's CAFS retrieval system, it needs no extra hardware for pre-processing of queries. Instead it uses data-driven software - techniques akin to the "dataflow" methods used in fifth generation projects.

The TSIP system can retrieve text by sentence, paragraph, section, document or groups of documents, depending on what the user defines as a "record".

Like CAFS, TSIP does away with the need for clumsy indexes, and makes it possible to scan one database or several at extremely high speed. SDL quotes 1/2 Megabyte a second as standard search time for TSIP.

"It's a rapidly expanding market

and we see enormous possibilities," said Ian Trail, senior consultant in SDL's Government Systems Group. "At present the market has been suppressed by the fact that other products in the area are overpriced."

SDL is selling the system at present operational only on Digital Equipment's Vax mainframes.

Trail does not see CAFS as a direct competitor to TSIP. "CAFS is a DBMS accelerator, providing high performance on large databases. TSIP is really for more sophisticated and complex text retrieval jobs."

TSIP is selling for £9,500 - not cheap, says Trail, but considerably less than most products doing a similar job.

Colin Hebden, SDL's manager of R&D in the Government Systems Group, is cagey about the amount of time and money TSIP has used in development. "There are plans to capitalise on TSIP by

selling it at an OEM level.

Its speed is the main advantage offered by TSIP over the other retrieval programs. It achieves this by building a specific "intelligent" search program out of each query, rather than using a general-purpose, and therefore slow, retrieval program.

"What it does is to take the query in real time and compile it into a machine-code search program," explained Hebden. "It generates an optimum search program and then reads the database off the disc using the program."

The data-driven approach means that the data itself "drives" the program, and in some cases TSIP can scan more database characters than the computer can execute instructions.

SDL's future plans for TSIP include implementation on an "on-board" micro to provide a host-dependent database machine.

Comshare brings in foreign versions

US bureau Comshare is introducing its successful financial modelling programs into Europe in foreign language versions.

The move marks a significant departure from the traditional approach of English-language applications authors who, like tourists, have generally expected foreigners to make the effort of understanding them.

But Comshare has calculated that the French and German markets will form such an important area for expanding its business that it has commissioned translations by a small company from Haslemere in Surrey.

The translator is ST&R (Software Translation and Research) set up by Ray Todd, a former Comshare employee and previously with Peachtree and Cincom. He has put together a team of six and plans to expand that number to 20 by the middle of next year.

Comshare is his main client so far, but he says he is talking to several well-known names in the software industry. He is currently considering Spanish, Italian and Japanese versions.

Todd's first undertaking was a translation of Comshare's micro financial suites, Masterplan and Planner, which is now complete and due for launch. Now the company is working on French and German front-end to the successful mainframe system, Wizard, which will be introduced on a modular basis from the beginning of 1984.

Wizard, which amounts to 300,000 lines of code, was written for Comshare by its British staff at Wakefield, Leicester and London

and has gained some 300 users in this country since February 1982. According to European marketing director James Cherrill, sales are now running at £1 million a quarter - but the rapidly maturing European market remains largely untapped.

Comshare believes the only way to make an impression on it is to meet it on its own terms.

Todd comments: "French versions have proved quite straightforward to do, but German has thrown up some unexpected problems. For instance, the word being much longer, you therefore need two-line error messages instead of one. And that can mean major changes."



TODD... Considering.

DEC bureau expands

by Claire Gooding
A FLEXIBLE distribution package is paving the way for Rolfe & Nolan to become a software supplier. Rolfe & Nolan, best known for its Digital Equipment-based bureau service, is taking the plunge into third-party software business with its sales order processing system.

The distribution package is based around Pioneer's Command software and uses a central database to supply central control over file maintenance and reports. This

makes the system easier to maintain, as well as making it possible to tailor it to individual requirements.

The modules available include sales order processing, analysis of bill of materials processing, material requirements planning and contract costing. The system is available online and batch, with multi-company facilities if required, and has been tailored for DEC PDP-11, RSTS, CTS 500 and Vax users.

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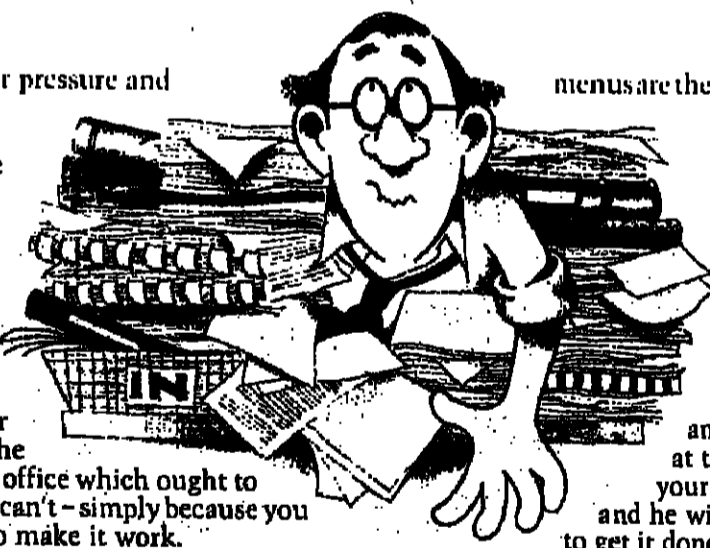
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All systems go
GSX is designed for integration into all Digital Research's own CP/M family of operating systems, including multitasking Concurrent CP/M where the possibilities for graphics enter a new dimension.

It is now also available for IBM's Personal Computer DOS and to the manufacturers of computers running under Microsoft's MS-DOS for similar in-system integration.

Within the last year, a growing number of major manufacturers have taken up the GSX option, a growing number of exciting

GSX based applications have been created and a growing number of end-users have been delighted to discover that there is an effective graphics choice for their machines at last.

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PLATFORM

Stuart Peel is European marketing director of SMS International.

Invite the users to the third party



IT'S time for third party maintenance companies to come into the limelight, drop their low profile, and start to make the industry aware of their existence.

Users must be told of the 25% cost savings over original manufacturers' maintenance charges and the freedom to install any mix of hardware they want on contracting the services of a third party maintenance company.

As important is that when a third party company takes over the responsibility of servicing an installation, it is primarily concerned with ensuring that the smooth operation of hardware, regardless of its source, continues without any hiccup.

To this end, preventive maintenance is higher on the third party company's list of priorities than remedial maintenance. The prime

Although commerce is increasingly aware, the public sector is slow to respond

objective is to provide users with optimum computing performance which in turn increases systems availability and response time.

Not for the third party maintenance company is much rubbing of hands when a machine fails, because it sees an opportunity to sell the user a more powerful piece of equipment. Maintenance is the key to its service and maintenance is what it supplies. And it has to be the best maintenance available. That is the business.

The computer industry is constantly promoting price and slash performance benefits of plug compatible hardware. Consequently, more and more companies have changed to PCM and mixed hardware installations.

But what happens when a machine fails, affecting a whole range of peripherals? Valuable time and money is lost tracking down each manufacturer and once that has been achieved there is no guarantee that engineers will arrive on site quickly, or indeed, have the required spare parts.

The third party maintenance company is a different proposition. One phone call and the entire problem is solved.

But don't think these engineers only respond to frantic calls for help after a catastrophe. The ser-

vices provided by these companies are much more sophisticated than a "dial-a-disaster" strategy.

The initial research undertaken is extremely thorough. First, a detailed plan is drawn up for each site; then every installation is surveyed individually; and finally, the condition of hardware is assessed, together with the environment in which it operates.

Third party engineers understand that the maintenance is not skin deep. It is not the symptoms that should be treated but the cause. Often installations operate less than efficiently, and users are not aware that a piece of hardware may be affecting the throughput of their entire installation, and so blindly adjust to unknown inefficiencies.

But the independent maintenance audits carried out by third party companies have the freedom to define the conditions and serviceability of all hardware, whatever the mix, and to identify potential problems objectively.

Direct cost savings of up to 25% on maintenance charges, optimum performance, freedom of hardware choice, a single maintenance source, maintenance programmes to suit each installation, independent maintenance audits and no geographical limits — all these allow users to regard third party maintenance companies as their own engineers.

Although commerce is becoming increasingly aware of the benefits, the public sector is slow to respond. Whilst there is plenty of evidence of the number of local authorities which have signed up with third party firms in continental Europe, how many such authorities have seen the advantages in the UK? None.

More to the point, UK local authorities do not seem to be interested in taking the mixed hardware experience and cost effective services provided by such companies.

In the USA, third party maintenance services are well-established and accepted by manufacturers and users alike. Customers have realised the full benefits of cost saving and dedicated professionalism.

Is it only a matter of time before the third-side companies wake up and realise the potential in Europe? Come on lads, it's about time you started to make a noise about your service, and not roar like a mighty mouse.

Stuart Peel

10 YEARS AGO

FROM COMPUTER WEEKLY OF NOVEMBER 1, 1973: Univac won the multi-million pound contract to supply the Russian state airline, Aeroflot, with a seat reservation system... Digico's 16V was chosen for the business system developed in the UK by Melcom System (UK), a subsidiary of Mitsubishi... IBM's share of the UK market exceeded ICL's by 38.4% to 34.7% — total installed base value of the market was nearly £950 million... The average salary for data processing managers reached £4,679, a 10% increase over the year.

Lideware File

by Don



SORRY - WRONG NUMBER



PROFILE

How to run a company and a marathon at once

NOT many company presidents would go for a five-mile run at the beginning of a busy European fact-finding visit, straight after a long transatlantic flight. Still fewer would do so at the age of 56.

But that was a short run for marathon runner Bob Wiggins, president and chief executive of Paradyne, the Florida-based data communications company. Only the quadrennial Telecom Show in Geneva kept him out of this year's New York marathon, which he has completed in under four hours. He compensated with a 20-mile run around London on that day.

by John Riley

Wiggins took advantage of the Telecom Show to bring senior members of his board over to Europe to help lay the foundations of Paradyne's future European strategy.

After spending 13 years in product development, sales and marketing with IBM, "there wasn't much there in the way of communications at the time," Wiggins moved to the data communications company, GTE, where he ran a communications division.

He moved to Paradyne in 1974 as president and chief executive, a position he has held ever since. "When staff come along for promotion I tell them that I haven't had a promotion in nine years, and am still in the same job," he quips.

Wiggins turned the then ailing Paradyne round from losing \$3½ million a year to its current turnover of \$207 million and \$26.9 million net profit.

Wiggins wants to increase the amount of business Paradyne has outside the US to about 40% of the company's turnover. It is currently around 10%.

The company has been selling its IBM compatible communications devices around the world largely through distributors, and Wiggins now aims to sell more



directly, particularly to PTTs and multinational companies.

"We do give more than token support to international co-operation," he says, "and we will enter into partnerships to use good ideas we find abroad."

Paradyne has a special, long-standing relationship with the British data communications company, Case, whereby Case builds Paradyne circuit boards into its own equipment and Paradyne manufactures Case's DCX

switching multiplexers under licence in the US.

Paradyne also has a similar arrangement with the French company, Sesa, with private packet switching networks.

Wiggins has managed to break into the Japanese market successfully. He started off using Nippon Electric as Paradyne's distributor, and helped Nippon develop its 9,600 bits/sec modems. Paradyne now sells direct to the Japanese PTT.

"People told us we wouldn't be able to sell diagnostic devices to the Japanese PTT, because the Japanese regard their lines as being so good that it would be impossible for us to tell them their lines might not be functioning properly. But we had no problems."

Wiggins regards Japan as a sound long term market. "You have to pay your dues for being there, but it is a good market to be in," he explains.

Wiggins sees the future of communications not only in terms of higher speed and better price performance, but also more built-in fault tolerance and redundancy.

"Everybody wants it, but nobody wants to pay for it," he says. "In communications networks, redundancy is a vital part of the activity and the whole industry needs to concentrate in that area."

He wants to look more closely at Europe, because there is an expanding need among the multinational companies to expand their transnational data communication networks. That is why he is looking at products needed by the European market, and plans to expand software development in his European headquarters in Windsor to cater for the European market.

Although his sales pitch is aimed at larger companies, Wiggins welcomes every order that he can get, whatever its size. "No order is small," he says. "They are all great."

He points out that 70% of Paradyne's business is for its installed user base.

After his whistlestop inspection of Europe, Wiggins will be back in Florida in good time for the British American marathon at Tampa on November 20, which Paradyne helps to sponsor. "We had 72 teams of businessmen competing in it last year for the Corporation Cup and we raised \$13,000 for the local hospital."

And, of course, he intends to better that performance this year.

DOWNTIME

Invaders from outer Russia

RUSSIAN infants are being denied the dubious pleasures of playing with micros.

It would appear that little Ivans and Valentinas are being deprived of hands-on experience of the Apples and Sinclairs smuggled into the USSR in crates marked "farm machinery".

The lads at the Kremlin are concerned that micros could form the basis for unrest on a grand scale and are therefore "looking very carefully" at the need for comrades to have access to financial spreadsheet packages and space invader games.

Considering that even photocopyers are kept under wraps lest dissidents should start distributing



illegible roneoed copies of the Daily Telegraph around the Steppes, the prospect of allowing word processors into the homes of the Russian intellectuals quite rightly fills the hearts of the Supreme Soviet with dismay.

Oh, no, all good Soviet citizens should instead be prepared to invade the filthy capitalist western nations and show them the error of their ways.

Most of our lot will be so involved in playing space invaders on the Orics and Spectrums that we probably won't even notice the T32s rolling up Whitehall.

Make a robot happy

HOT news in from the States is that two robots have talked to each other over the phone. Wow.

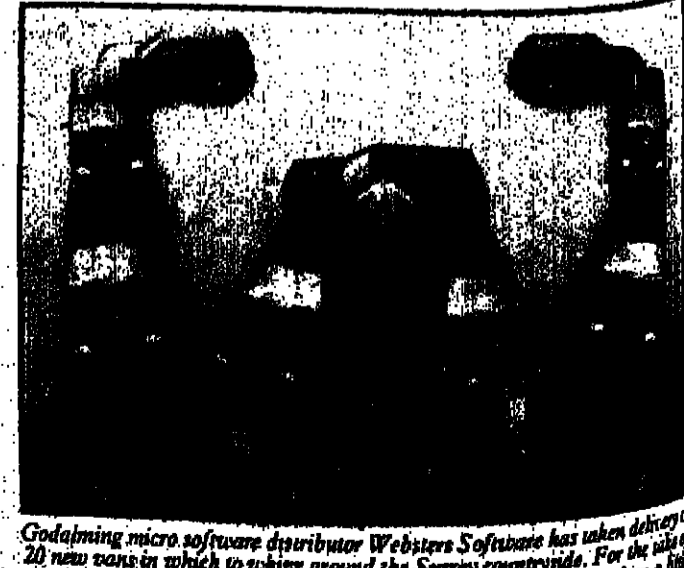
This amazing feat took place last month when a robot in Ohio phoned up a chum in Colorado for a chat. At great expense, Downtime has obtained a transcript of that conversation, reprinted here for your delectation.

Eric the Robot (for it is it): Come on Ethel, get off the damned phone. I've got to phone Ralph. Ethel: Just a moment dear, I'm talking to Madge.

Eric: Gooddammit Ethel, this is supposed to be an historic occasion, the first robotic telephone ongoing interaction situation. The world's press are gathered at Ralph's place — hang on, what Madge?

Ethel: It's my sister, our real numbers are adjacent.

Eric: Aaaaargghh! (Bangs head module with arm. Head falls off crushing Robosop, per dog guide tube — no mess, no smells, faulted to the end, batteries extra.)



Codapling micro software distributor Websters Software has taken delivery of 20 new sensors which to write around the Surrey countryside. For the sake of the inhabitants of suchbookedland, let's hope they learn to park them a little more considerately than their publicity photo suggests.

ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, November 3, 1983

Software moment of truth comes

TWO seemingly unrelated events took place in the last week which give a clear indication of where the computer industry is going: the share issue of UK software house Logica was oversubscribed by nearly eight times; and Texas Instruments, the big US electronics company, pulled out of the home computer market.

Logica's success on the market came at a time which many commentators said was inopportune. They pointed to the lack of market interest in Acorn, the UK microcomputer manufacturer, which went public in September. The glamour of the high risk technology sector was wearing thin, they said.

The comparison of Logica and Acorn was never a valid one. But the software industry must be particularly pleased that one of their own has been given such a vote of confidence at a time when those producing the hardware have become suspect.

For a long while we have heard that the City does not understand the software industry. We have said as much in these pages. There is of course no proof that the City understands the business any better now, but at least it realises that it is a good place to put its money.

The contrast of Logica's success with Texas Instruments' withdrawal from the home computer market could not be more stark. The home computer market is a funny one, and in theory should not be of much concern to the business user. Yet there will be many business users who will see the failure of Texas Instruments, a big name in the industry, as further proof that the only way to play this game is safely: buy IBM.

The problem with the microcomputer industry is that there are too many companies selling equipment which is almost identical to its competitors. Most micros, designed around the same chips, have very little to distinguish themselves. Some micros are even making this sameness a virtue: look at the growth of the Apple and IBM PC "compatible" business.

The distinguishing factor between machines is the software. The statement has become something of a cliché in the past few years, but the differing fortunes of Logica and Texas Instruments indicate that the moment of truth has come.

Well done, ASTMS

GOVERNMENT and industry are regularly criticised for not directing sufficient attention to the social implications of information technology. The chip is bringing about a complete change in the organisation and structure of work at all levels, but little is being done about preparing for it.

Encouragingly, the Royal Navy and the trade union ASTMS (Association of Scientific, Technical and Managerial Staffs), attempted last week to change things for the better.

The role of unions in information technology has often been considered by some to be myopic and reactive rather than constructive. A recent Dutch government report on chip technology concluded that trade unions world-wide are not taking advantage of the opportunity to help shape the inevitable new organisational structure of industry. "It will probably be some time before unions adopt an anticipatory and active role in organisational and job matters," it concluded.

ASTMS would doubtless disagree with the Dutch government and in producing well-written and well-argued booklets with the aim of "seeing our manufacturing businesses succeed" it shows it means business. It has given a lead to others to examine the issues with equally well-thought-out and researched techniques.

Ergonomic factors have often been the concern of the unions, and the move by the Royal Navy to ensure that the human dimension is introduced into the design stage of systems software development is an important move.

It is time for the information technology industry, in particular the manufacturers and software developers, to play a more active role in these areas.

1984 and all that . . .

This week's example of the strange things people say about computers was sent in by G. D. Howat of Bristol, who wins £5. As usual you have 10 seconds to answer, not 10 minutes which the computer has written down on these little lines that I'm reading out now. I think the computer had been drinking. Robert Robinson, introducing the final of Britain 1983.

LETTERS

Programmer retires after 20 years

MANY of your readers, as well as many friends and colleagues of Cliff Leak, will be interested to learn that he retired this month.

He has a work record which must surely be one of the most unusual in the computer industry, having started programming in April 1962 on an IBM 1401 and been programming professionally ever since — that is, over 20 years of full time programming, initially with Unilever and, from April 1970, with Fraser Williams.

As a programmer, his reputation

for excellence and elegance is legion, having raised commercial programming to almost an art-form. He assisted younger programmers with patience and willingness to help, whilst his attitude to inept and incomplete systems and design work was equally well known.

All of this needs to be put in the context of his other attainments. Briefly put these are an Honours degree in Classics at Oxford 1947 following the award of an Open Scholarship. He passed the final

examinations of the Institute of Cost and Management Accountants in 1958, but didn't apply for membership.

He is fluent in German, French, Greek, Dutch and Italian, with some Russian. A country chess player, he once played 15 games blind-fold. He won 14, lost one. He is also a bridge player to a high standard.

He boxed for the army during his war service. And he is a pianist to a good level.

Cliff is now in his 60s, and he

was programming until the day he retired. For all his attainments, he was unambitious and enjoyed the continuing technical challenge of programming at a high level of competence.

We all wish him well in his retirement and, if any of his old friends or colleagues want to contact him, I will be pleased to forward any letters.

E. R. WILLIAMS
Joint Managing Director
Fraser Williams Group
Liverpool.

Comparing raw data rates is absurd

I OBSERVED with interest Dr. K. H. Benner's letter (*Computer Weekly*, October 20) in which he states that the inter-machine transfer rate over Keele's Cambridge ring is only about 1.5 Kbytes per second.

It emphasises the absurdity of the common practice of comparing local area networks on their raw data rate. Our own local area network, Multilink, has a raw speed only one fortieth of that of the Cambridge Ring, but transfer rates of up to six times that reported at Keele are easily achievable.

The high speed of file transfer using Multilink is achieved because the protocols (including packet assembly, acknowledgement, etc) are handled in the node. All the sending and receiving devices have to do (once the connection has been made) is to move the stream of bytes across the interface to or from the node. If appropriate, this can be done by DMA so that the host CPU has no work to do at all.

This also gives the lie to the idea prevalent in the LAN industry that connectionless protocols, in which the sender has to divide the data stream into blocks, each of which includes full addressing information, are more efficient than those involving virtual circuits.

Multilink is firmly in the class of "micronets" and yet apparently outperforms some of the more "heavyweight" networks; surely performance criteria rather than raw speed should form the basis of informed comparisons of networks?

DR C. R. GRANT
Nine Tiles Computer Systems
Cambridge.

The meaning of mips

I REFER to an article by John Riley in the edition dated September 29. The article, on page three, was entitled "Nippon aims at a 10 mips chip".

In the article "mips" was quoted as meaning "machine instructions per second". I and my colleagues have always understood mips to mean "million instructions per second". This would make sense in the reference made to the V-60

which it is quoted, "will run at 1 mips with full CMOS".

Perhaps the journalist in question should take care when quoting such a specific detail as speed of operation.

JOSEPHINE SHAW
Managing Director
Teaching Aids
New Millon
Hampshire.

You are right, we were careless.



Powerscourt House

Don't be too envious of the setting

LEST your readers become too envious at the beautiful, pastoral setting for the National Microelectronics Research Centre, indicated by the photograph on page 31 of *Computer Weekly* (October 20), they should know that the photograph is not of Cork, as the caption states, but of the view from Powerscourt House, County Wicklow — 150 miles away!

Incidentally, why the bilingual title to the article itself? I am sure you realise that "Fire" is the word in the Irish language for Ireland.

If the article had been about Spain, would the title have read "How España lured 250 electronic firms"?

JACK MORRISSEY
Dublin.
Ed's note: touched.

Thrill to the return of Database

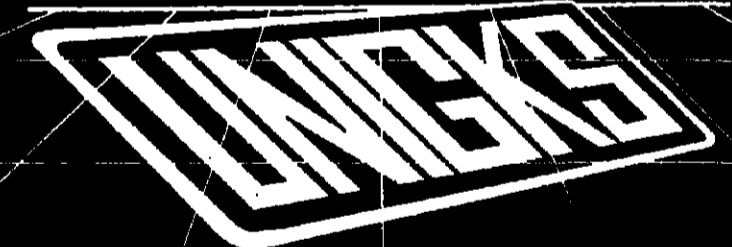
I WONDERED if you and your readers thrilled, as I did, to the return of the TV show *Database*. I recall similar "in-depth" shows hosted by Mr Bastaple concerning car maintenance — "change ashtrays", "this is the engine", etc.

It's gratifying to note that a similar tone is being adopted by *Database*, and I am confident that the image of computers and computing among the public will be enhanced enormously.

ALLAN BISSET
KNA Public Relations,
Alton,
Hampshire.

The Editor welcomes letters commenting on subjects published in *Computer Weekly*, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.

Euroras Colour Graphics Ltd ANNOUNCES



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How to understand the public data service

FRED JENNINGS of software and systems house Data Logic has prepared a series of reports on networks, called 'Jensheets'. Here is the fourth in the series.

PSS is the latest data communications service offered by British Telecom. It is a national, public, switched data service and provides full duplex operation at transmission rates from 300 to 48,000 bps.

Two types of terminal can be connected to the PSS network, a packet terminal and character terminal.

The PSS provides a communication link between terminals operating at different speeds. For example a packet terminal operating synchronously at 2,400-48,000 bps can communicate with an asynchronous character terminal operating at 300-1,200 bps.

A packet terminal is an intelligent device (ie microprocessor, minicomputer or computer), which communicates synchro-

nously at 2,400 bps, 4,800 bps, 9,600 bps or 48,000 bps with the PSS using the PSS three-level protocol (X25). This synchronous connection to the PSS can only be provided by British Telecom and is known as Dataline.

A Dataline rental includes charges for the packet terminal's modem, the leased line to the PSS exchange, and the modem plus dedicated port in the PSS exchange. The important difference between Datalines and normal leased line connections is that the Dataline charges are completely independent of the distance between the packet terminal and the nearest PSS exchange.

A character terminal is a terminal such as a teletype-compatible VDU or a teletypewriter, which communicates asynchronously at 300 bps, 75/1,200 bps or 1,200 bps with the PSS using the PSS Pad (X28) procedures.

A terminal that operates at

75/1,200 bps, sends at 75 bps and receives at 1,200 bps.

Character terminals cannot work directly to the PSS network, because they cannot make packets (not X25 compatible). Therefore they are connected to a packet assembler/disassembler (PAD) which is located within each PSS exchange.

This asynchronous full-duplex connection to the PSS Pad can be a dial-up connection at 300 bps or 75/1,200 bps or a Dataline (leased line) connection at 300 bps or 1,200 bps.

In the case of dial-up connection, the character terminal's modem is a Datel 200 or Datel 600 modem at the normal rental.

An additional requirement for a dial-up connection is the allocation by British Telecom of a network user identity (NUI) for which a rental is charged.

The PSS tariff structure is made up of three parts: access, usage and facilities.

The access tariffs include all charges required to connect to the PSS exchange (ie Dataline charges, Datel 200/600 modem charges, PSTN connection charges, NUI charges, etc).

The usage tariffs are based on the call duration (ie x pence per hour) and the quantity of data (packets) carried (x pence per kilobyte). A segment is equal to 0.64 octets (bytes) and is equivalent to half a packet.

The facilities tariffs include charges for close user group (CUG), transfer charge acceptance, minicall acceptance, permanent datalink (PDC), logical channels, multiline, call redirection, Dataline to alternative PSS exchange and direct calling.

For more information on the PSS tariffs refer to the British

Telecom booklets PSS - A basic guide (PH 2827); PSS - Tariffs (PH 2825); and PSS - Facilities (PH 2826).

PSS exchanges will be located in the following places: Birmingham, Bristol, Cambridge, Edinburgh, Glasgow, Leeds, Liverpool, London, Manchester, Newcastle, Reading and Slough.

There are four possible line configurations for connecting a character terminal to a PSS Pad (see table 1). These are a Dataline 300 leased line connection; a Datel 1,200 leased line connection; a Datel 200 dial-up connection; and a Datel 600 dial-up connection.

The character terminal will normally be a standalone VDU (standalone teletype-compatible device) plus a document printer if required. Printing will be initiated by the terminal operator pressing the print key to print the screen contents on the printer.

The Dataline costs (shown in table 1) are independent of distance between the terminal operator's office and the nearest PSS Pad.

The dial-up connections have a higher usage cost an hour than Dataline connections and the PSTN connection charges will depend upon the distance between the terminal operator's office and the PSS Pad and also the time of day.

For a Dataline-connected VDU the operator will identify the PSS packet terminal (Host) for PSS connection by typing in the Host's PSS address (nine to 11 numeric characters).

For a dial-up connection the terminal operator will first manually dial-up the Pad and await confirmation of a PSTN connection. When connected to the Pad the operator will type in his/her network user identity first.

Possible connections of a character terminal

PSS Dataline 300 VDU and Printer
(Pad) 300 bps each way Keyboard

Dataline 300 is £800/year; 23p/hour

PSS Dataline 1200 VDU and Printer
(Pad) 1,200 bps each way keyboard

Dataline 1200 is £1,100/year; usage 23p/hour

PSS Dial-up Datel 200 VDU and Printer
(Pad) 300 bps each way keyboard

Modem is £150/year; NUI £20/year; connection charges £/hour; usage 88p/hour

PSS Dial-up Datel 600 VDU and Printer
(Pad) 1,200 bps each way keyboard

Modem is £160/year; NUI £20/year; connection charges £/hour; usage £1.23/hour

Table 1

Possible connections of a packet terminal

PSS Dataline 2400 VDU and Printer
2,400 bps each way keyboard

Dataline 2400 is £1,500/year; usage 23p/hour

PSS Dataline 2400 Cluster controller Three VDUs & keyboards
2,400 bps each way

Dataline 2400 is £1,500/year; usage 23p/hour; logic/channels £4/year

PSS Dataline 4800 Minicomputer N terminals
(with alternative exchange) 4,800 bps each way

Dataline 4800 is £2,500/year; usage 23p/hour; logic/channels £4/year; three exchange £2,500/year

Table 2

PUZZLER

FIVE men - A, B, C, D and E - are engaged in digging a hole in the road. At a given moment one morning some are working, some are leaning on their shovels, and all of the following five statements are true.

- (1) If A is working, so is B.
- (2) Either D or E, or both of them, is working.
- (3) Either B or C, but not both,

is working.
(4) D and C are either both working, or both leaning on their shovels.

(5) If E is working, then A and D are also working.

Which of the men are working, and which are leaning on their shovels? See page 63 for the correct Operational Status in this interesting case.

The facts on Fibre-optics.

Crystal Clear Communications

With fibre-optic cabling, data transmission is free from any kind of interference, which enables operations to proceed in electronically noisy environments.

None of the noise or electro-magnetic interference you experience with ordinary copper cable lines - so there's no worry about cross talk.

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Fibre-optics provide high security of data during transmission, making them particularly suitable for applications in banks and finance houses where security of data is vital.

The signal quality is also far superior than that previously available with copper cabling.

Easy to Install

With fibre-optic cabling, systems can be installed in confined spaces far more easily than conventional cables.

Particularly useful when installations are required in underground ducts where space is very limited. It has the advantage of greatly reducing the volume and number of duplex lines which are necessary with traditional materials and it's also much lighter.

Versatile Data Transmission

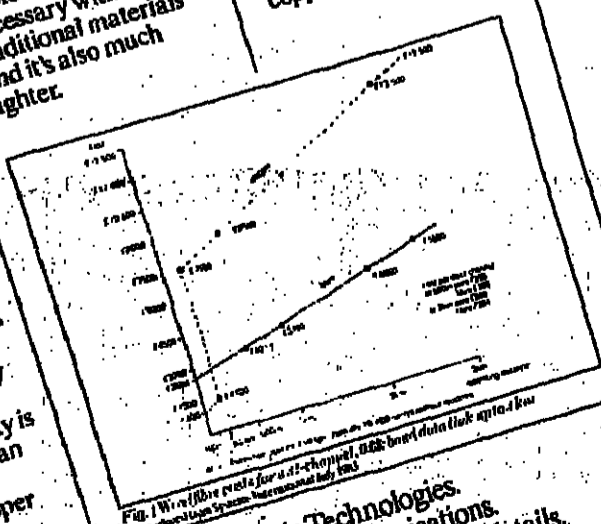
You'll be able to take advantage of the wide bandwidth, high speed and overall efficiency of transmission with fibre-optics.

Cost Effective

And most important of all, fibre-optic cabling is much more cost effective in short or long runs than copper cable.

Pilkington Fibre-optic Technologies are already widely recognised as producing the best optical cable and data systems on the market.

But you may still be in the dark when it comes to the vast potential of fibre-optics. Let us enlighten you.



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It's a relational-based information centre that links your IBM mainframe to IBM personal computers. Running on the mainframe, it summarizes and stores data from all computer file systems inside and outside the company including VSAM files and IDMS or IMS data-base systems.

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Now, finally, you can stop wondering how to turn personal computers from mavericks into useful tools.

The answer is software.
And software is Cullinet.

PEOPLE

The Information Technology Division of Thorn EMI has established its headquarters at new offices in Sunbury-on-Thames, Middlesex, and announces the appointments of Bill Ellis as marketing director, and "Juggy" Pandit as planning director. Ellis was previously group sales director of Software Sciences. From 1980 until the company was acquired by Thorn EMI in 1982 he had been managing director of Software Sciences International. Pandit previously worked for ICI, Gulf Oil and Unilever in engineering, computing and planning functions.

Gary Waller has recently obtained an upper second class honours degree in computer science at Brighton Polytechnic. Waller joined Rediffusion Computers Ltd in September 1979 as a sponsored student on the four-year BSc sandwich course. Waller will now be based at Crawley, as a programmer in the technology department of Rediffusion Computers Ltd, designing a new operating system to replace the Rediffusion R-range of minicomputers.

Mike Williams has been appointed to the new position of manager for STC Micros - a sister company to STC Instrument Services. Previously internal sales manager for STC Instrument Services, Mike also has six years' experience as a field sales engineer with STC. Prior to joining the company, he was employed by Philips Electronics Instruments at Pye Unicam, Cambridge.



NCR has announced important changes to its marketing organisation. It has created two new divisions - product marketing and customer consultancy services which will report directly to chairman and managing director Frederick Newall (above left). The product marketing division will have the prime objective of developing plans that ensure that NCR sell new products in large quantities and will monitor and direct all product performance. Graham Miller (above right) has been appointed to the new post of divisional director. Miller was previously divisional director, marketing services. The customer consultancy services division will have the prime objective of marketing and selling the entire range of computer services except for field engineering and data centres. This includes central systems services, customer software support, application software development and education. David Collins (above centre) has been appointed to the new post of divisional director. Collins was previously divisional director, education.

Alan Whitty has been appointed by Rediffusion Computers Ltd, as customer services supervisor for the south/east branch. Whitty joined the company in 1981 as a customer engineer having previously spent nine years in the Royal Corps of Signals. He is also qualified as an Army telecommunications technician.

Enid Mumford, a Manchester, business school professor, is the first recipient of the J. D. Warner Prize for major contributions to the theory and practical application of information engineering. Mumford, professor of organisational behaviour, was awarded the prize at the annual DSSD User's Conference sponsored by Ken Orr and Associates, a computer research and development firm. The prize included a medal and a \$3,000 cash contribution. Prize committee chairman Gerald Weinberg, an internationally known author and lecturer, and Warner made the formal presentation. The prize honours Jean-Dominique Warner, longtime member of a research group at La Compagnie Internationale pour l'Informatique CIL-Honwell Bull in Paris. One of Europe's leaders in the information science field, Warner has published several books on logical approaches to solving problems with data processing systems. The Paris resident, who recently retired from Honeywell-Bull, continues to lecture and work with universities and companies around the world.

Thorne Systems has announced the appointment of Malcolm Farrar as manager of the disc products division. Farrar replaces Mike Pearce who was promoted recently to head-up the MEMEC Group's latest addition, Ambar Systems Ltd. The division is principally concerned with the distribution and support of Winchester floppy disc drives, streaming tape drives and associated controller systems, to the ORM. Farrar, aged 34, joined Thorne from Apple Computer (UK) Ltd where he was major accounts manager, and brings with him considerable experience from time spent with Callog and Case.

At a recent executive committee meeting, the Computer Retailers Association elected Paul Rayner, the previous vice chairman, to the post of chairman. Paul Rayner is one of the original members of the CRA. He began his career with IBM in Australia and gained valuable experience in both Australian and United Kingdom companies in the computer field. He is the managing director of Great Northern Computer Services which specialises in software consultancy and training for both users and dealers of CP/M and Apple microcomputers.

SEE US ON STAND 917/9, COMPEC 83

CAMBRIDGE LONDON OXFORD DURHAM BRISTOL BELFAST

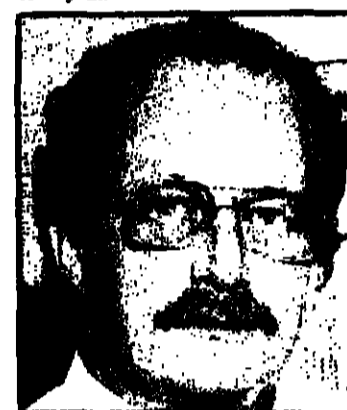
WALES EDINBURGH EXETER

THE OLD BOYS' NETWORK

Tony Patston, (right) has been appointed to the board of the human resources division of leading computer software company, Package Programs Ltd. His promotion to director is the latest step in a career in computing spanning 14 years. Tony, 38, has worked in a variety of computing organisations and in data processing in industry. He first joined PPL 2 years ago, as a support manager responsible for a team of client support personnel during the time when the new legislation on statutory sick pay was being implemented. He was largely responsible for the addition of statutory sick pay to the sophisticated payroll and personnel systems supplied by PPL to its clients.



David Reavley has been appointed managing director of Lanier Business Products in the UK. Previously word processing manager with Olivetti, he is the first English managing director appointed by Lanier.



John Howorth (below, left) has been promoted from southern region sales manager of Microdata Information Systems to the newly-created post of director of sales and marketing. John left IBM for Microdata (CMC, as it was then) in 1980. He joined initially as business development manager for the Reality range of products and was also responsible for the introduction of the 32-bit Sequoia supermini on to the UK market. He became southern region sales manager two years ago, responsible for seven of the company's sales branches, and under his leadership, the percentage contribution of the region to Microdata's overall growth pattern increased significantly. Establishment of the new position gives John nationwide responsibility for order intake, product marketing planning and strategy, and technical support to the customer base.

DIARY

NOVEMBER 4
Tutorial on CCITT Specification and Description Language (SDL) at GEC Telecommunications, Coventry. Details: Rick Reed, PO Box 53, Telephone Works, Coventry CV3 1HJ, or 0203 446902.
NOVEMBER 7-9
Seminar on Finberg & Yates Telecommunications: the next 10 years, at the London Tara Hotel, under the auspices of the CGS Institute (Cap Gemini Societ Group). Details: Diana Pitcher, Russell House, Russell Street, Windsor, Berkshire, SL4 1HQ, or 07535 58811.
NOVEMBER 7-11
Taurus Technology are introducing a new course on Ada programming language in London. Cost £550. Details: Sally Riley, 43-44 Great Windmill Street, London W1V 7PA, on 01-734 7394. 8100 programming course. Fee

(including accommodation, meals, but not VAT) £415. Details: C. Hemsworth, Acting Head of Training, Compowar Training School, Cannock, Staffs WS11 3HZ, on Cannock 1511.
NOVEMBER 7-DECEMBER 2
Systems analysis and design course at the London Training Centre, Holborn. Priced at £11.50, and leads to the examination for the BCS/NCC certificate. Details: Philip Corker, Data Training Ltd on 01-404 5444.
NOVEMBER 8
Talk on the Electronic Newsroom system by Tam Fry, special assistant, current affairs programmes at the BBC. British Computer Society. Meeting at Fairfield Hall, Croydon at 7.15. Details: David Bare, publicity officer, Honeywell Information Services Ltd, Kings House, 174 Hammersmith Road, London W6 8BS, on 01-748 4191.

CONFERENCE

NEW applications, pilot projects and new developments in interactive technology will be revealed at EPIC's third annual Interactive Technology Briefing. The two-day conference will be held on Tuesday, November 22 and Wednesday, November 23 at the CFS Conference Centre off Baker Street in central London. The speakers are all people working in the heart of interactive technology. They will explore the

truth and the rumours about developments in the UK market. The briefing will focus on practical demonstrations as well as discussion. On both days, guests themselves will be invited to try out a variety of systems and programs, some of them on display for the first time. A number of new UK applications will be discussed and/or announced. This session should show widespread use of interactive video in advertising agencies, engineering, maintenance manuals and training, educational publishing, government, the motor industry and trades unions. Generic videodisc courseware, project management, tapes and discs, and the training of trainees will also be discussed. Bookings should be addressed to: Gill Brown, Conference Organiser, EPIC Industrial Communications, 28 Litchfield Street, London WC2H 9NJ. Tel: 01-240 5863.

NOVEMBER 9
Office automation one-day seminar at the City of London Polytechnic. Course fee £65. Details: Rosemary Roys, Short Course Unit, City of London Polytechnic, 84 Moorgate, London EC2 on 01-283 1030 ext. 324.
NOVEMBER 9-11
Basic practical signal processing course of three days, run by signal processing and applications group at Cranfield. Details: Short Course Officer, Cranfield Institute of Technology, Cranfield, Bedford MK43 0AL, on 0234 752769.
NOVEMBER 10-11
Advanced software project management course presented by Earl Boebert at Royal Aeronautical Society Lecture Theatre, London. Details: DPMA ASPM Seminars, c/o State of the Art Ltd, Victoria House, Suite M9, Southampton Row, London WC1B 4EF, on 01-242 4045.

PRODUCTS



The Vision-EX Colour video is capable of input from both video signal and RGB separate signal.

Data Efficiency monitor

DATA Efficiency has launched a new Kaga/Taxan monitor aimed for use with most micros. Called the Vision-EX Colour Video, this monitor is capable of input from both video signal and RGB separate input signal, and costs £265. The low-cost, lightweight, 12in monitor is equipped

with a smoked filter to reduce eyestrain, and a 0.7W audio speaker, making it available for the microcomputer user, whether Apple, BBC or Commodore.

Data Efficiency (CW), Maxted Road, Hemel Hempstead, Herts HP2 7LE. Tel: (0442) 60155.

The fastest mobile waste bin in the world

THE fastest car on earth is now the fastest designed and built "Thrust 2", which has recaptured the world land speed record for Britain by achieving a record speed of 633 mph at the Black Rock Desert, Nevada.

Richard Noble, Thrust's driver chose Trimite to supply the special high performance paint to protect his car from the extremes of temperature and the harsh effects of sand, fuel and lubricants. The paint came through this test unscathed, proving that Trimite paint provides a tough finish. The Data Efficiency (DE) mobile waste bin is finished in the same Trimite paint, and though



Trimite paint is the key to the waste bin.

nowhere near as fast, is designed to make a useful addition to the computer room.

Finished in an autumn brown colour, the DE mobile waste bin includes a lift-out fibre box inner and a removable laminate work-top, and costs only £111.

Data Efficiency (CW), Maxted Road, Hemel Hempstead, Herts HP2 7LE. Tel: (0442) 60155.

Websters teams up with Boots

WEBSTER Software, the newly-formed division of the Websters Group PLC, the £40 million communications business, has landed a new deal.

Websters is now merchandising software for personal computers into 277 Boots branches throughout the country. The Boots Group has already made clear its intentions to lead the computer market in the High Street. The arrangement with Websters means that Boots will be carrying software titles for all the major home computers. Computer buyers will now be able to obtain all the ingredients for home computing from one store, claims Boots.

A total of 20 branches of Boots have been supplied by Websters on a trial basis for three months. Sales figures have been encouraging, leading to the agreement with

Websters which could generate a turnover of £10 million in the first 12 months.

Recent news items have suggested that the home computer market may be beginning to slow down. Jenny Trus, marketing manager of Websters Software says:

"Anyone who understands the first thing about computing will tell you that it's software, rather than hardware, that matters."

"Hardware is increasingly becoming a commodity and the real marketing opportunities are in the development and distribution of software."

Websters Software (CW), Langham Park, Cotteshall Lane, Godalming, Surrey GU7 1NG. Tel: (048 68) 4152.



The re-adjusted personal computer has full IBM PC compatibility.

Re-fit for IBM PC lookalike

COLUMBIA pc, the one-year-old 16-bit micro with full IBM-PC compatibility, is to reappear next month with a number of design improvements which will, according to main UK distributors Icarus Computer Systems, make it the undisputed No 1 IBM-PC look-alike in the UK.

A high resolution amber screen is incorporated as standard. Icarus Computer Systems (CW), 27 Greenwood Place, London NW5 1NN. Tel: 01-485 5574.



Baffled by computer malfunctions?

It may be as elementary as your power line — and it's easy to track down with the new Dranetz Series 626.

Solving puzzling malfunctions becomes most elementary with the new Dranetz 626 Universal Disturbance Analyzer — because only the 626 lets you monitor all the critical power parameters and other types of disturbances that directly affect computer operation.

Only the 626 can measure multiple DC and single- and three-phase AC signals — simultaneously. And only the 626, with its unique ability to accept five input modules, allows you to monitor such suspects as common mode (neutral-ground) AC, fault and alarm signals, and elapsed operation time — again, simultaneously. (And additional input modules will be available soon.)

The new Dranetz 626 — with a proven RS-232C interface, a four-level printout option; the ability to measure the magnitude of DC impulses; and much more. All to help you track down the fundamental cause of some very real mysteries.

For more details, or a demonstration of the Dranetz 626, please call Julia or Sandra on:

01-267 5416
Twyn House 31 Camden Road
London NW1 1YE Telex: 23848

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Computer Peripherals Division,

The Universities had a problem. They had difficulty communicating internally, let alone with one another.

They needed to network their computer systems and terminals to provide access to on-site hosts. And also to the off-site facilities of the integrated academic network.

The Camtec JNT-PAD did just that.

As a PAD it links VDU's, printers and micro's into X25 based local area networks.

As a reverse-PAD it provides port contention and X25 access to non-X25 hosts.

As an X25 switch it links together PAD's, on-site and off-site X25 hosts.

As British Telecom approved for connection to their Packet Switch network, it provides the connection to the Public Data Network.

The JNT-PAD is only one of a range of products within the X25 and LAN fields manufactured in the UK by Camtec.

Call us on 0533 537534 and find out how to get on the Old Boys' Network.

To: Camtec Electronics Limited,
Melton Street, Leicester LE1 3NA.

Please send me full specifications for the JNT-PAD.

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Company.....

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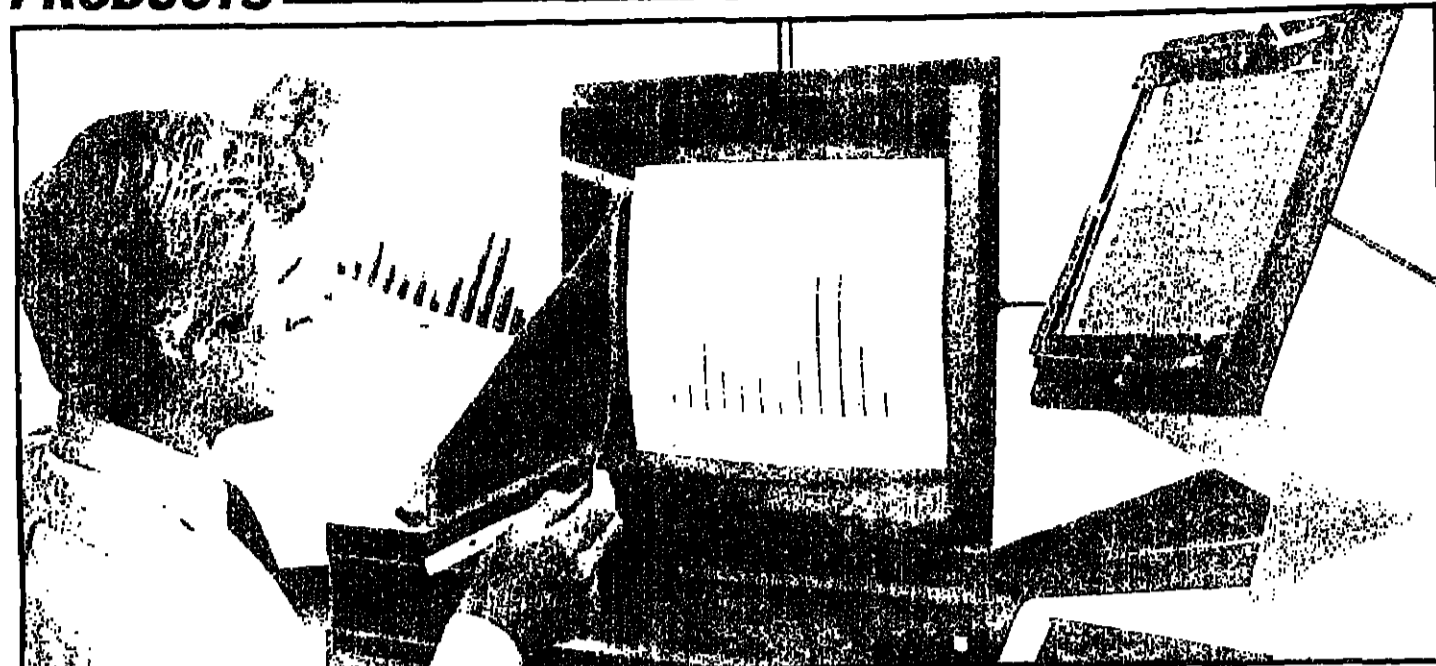
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CAMTEC

Joining networks together

PRODUCTS



The Video Printer Instant Colour Film Recorder.

Instant colour hard copy system from Polaroid

A LOW-COST interactive film recorder producing high-quality 35mm slides and instant photographs of personal computer graphics is being introduced by Polaroid (UK) at the International Business show.

Called the Polaroid Palette computer image recorder, the new system is designed for use with personal and small business computers to make presentation-quality colour or black-and-white graphics hard copy on new Polaroid 35mm Autoprocess transparency films and Polaroid ER 3 1/4 in x 4 1/4 in instant print film, Type 669.

The user-friendly system connects easily to the computer by means of a black-and-white video line and an RS 232C communication line. A compact, desktop computer peripheral Palette measures 16 x 8 x 6 inches.

Polaroid (UK) Ltd (CW), Ashley Road, St Albans, Herts AL1 5PR. Tel: St Albans 59191.

DaCom launches GT version of dual standard modem

DaCom Systems, Milton Keynes, has introduced a GT version of its 2123 dual standard modem. The basic DSL 2123 dual-up modem, conforming to both CCITT V21 and V23 standards, was brought onto the market in May this year. The GT version provides all the same facilities plus an integral auto-dialler, automatic error correction, auto log-on and an audio call indicator.

These extra facilities make the DSL 2123 GT ideal, says DaCom, for basic terminals or micros. It can be used for time-sharing bureaux, overnight POS terminal interrogation, microcomputer file transfer, viewdata systems, electronic mail and micro-to-micro communication.

At the heart of the modem is a dual standard asynchronous LSI module operating in any one of four modes: V21 300bps for normal interactive time-sharing applications, V23 1200/75bps for viewdata applications (terminal end), V23 75/1200bps for viewdata applications (computer end) and V23 1200bps half duplex for file transfer and electronic mail.

The built-in auto-dialler can be used interactively through a terminal or by a computer in a command response mode. In the first instance, the auto-dialler will accept direct input telephone numbers or short codes. Failed calls can be re-dialled with either a keyboard command or automatically. 32 telephone numbers up to 18 digits long can be stored and PBX and international numbers are catered for by special characters. All auto-dialler communications are in standard serial ASCII.

DaCom Systems (CW), 200 Cornburrow Boulevard, Milton Keynes MK14 7AH. Tel: (0908) 676797.



The Model 6400 intelligent adapter circuit board from Kennedy International.

Adapter circuit board

KENNEDY has launched a new, low-cost intelligent adapter circuit board, the Model 6400, which enables 1/4-inch cartridge tape transports to replace existing formatted 1/2-inch nine-track tape transports without the need to change any software.

The Model 6400 adapter allows systems integrators to install a low-cost 1/4-inch cartridge with a floppy disc size envelope, in place of the larger, more expensive 1/2-inch transports. The circuit board translates system commands from an industry-standard 1/2-inch tape interface to those of the Kennedy Floppy format, which permits the cartridge drive to emulate a reel-to-reel nine-track transport.

The Model 6455 cartridge transport handles records up to 16,384 bytes long and has an unformatted capacity of 17.3 Mbytes with a 450-foot-long tape and 23 Mbytes with a 600-foot-long tape. The transport is a four-track device which uses serpentine recording to avoid delays associated with tape rewinding at the end of each track.

The Model 6455 employs self-clocking group-code recording and has a 6400 bits per inch recording density. Data transfer rate is 192K bits per second.

Mapping system aids Imlac

A NEW digital mapping system, ViewMap, has been introduced by Structural Dynamics (Offshore) Ltd, a member of the Inspectorate E&B Group. It is available either as a software package or as a complete stand-alone system consisting of a central host, an Imlac vector refresh graphics workstation with keyboard and light pen, an AO digitiser, Structural Dynamics' ViewMap software and a plotter.

The graphics station, the Imlac Series II, was chosen for use in the system because it offers a powerful light pen facility, a bright, high-resolution display and because its display memory can be switched off locally. The stand-alone system will soon be in use with two water companies in the South of England and a number of other applications areas have been identified. ViewMap is a computer-aided mapping system which can be used for any form of facility service mapping. Imlac International (CW), 17 Chesham Road, Amersham, Bucks HP8 5HN. Tel: 4240 23167.

The Perkin-Elmer 32 bit Unix Passport. Now a new operating freedom is yours.

Unix, is about mobility. The strength of Perkin-Elmer 32 bit Unix is mobility harnessed to 32 bit hardware capable of taking this system to its full potential.

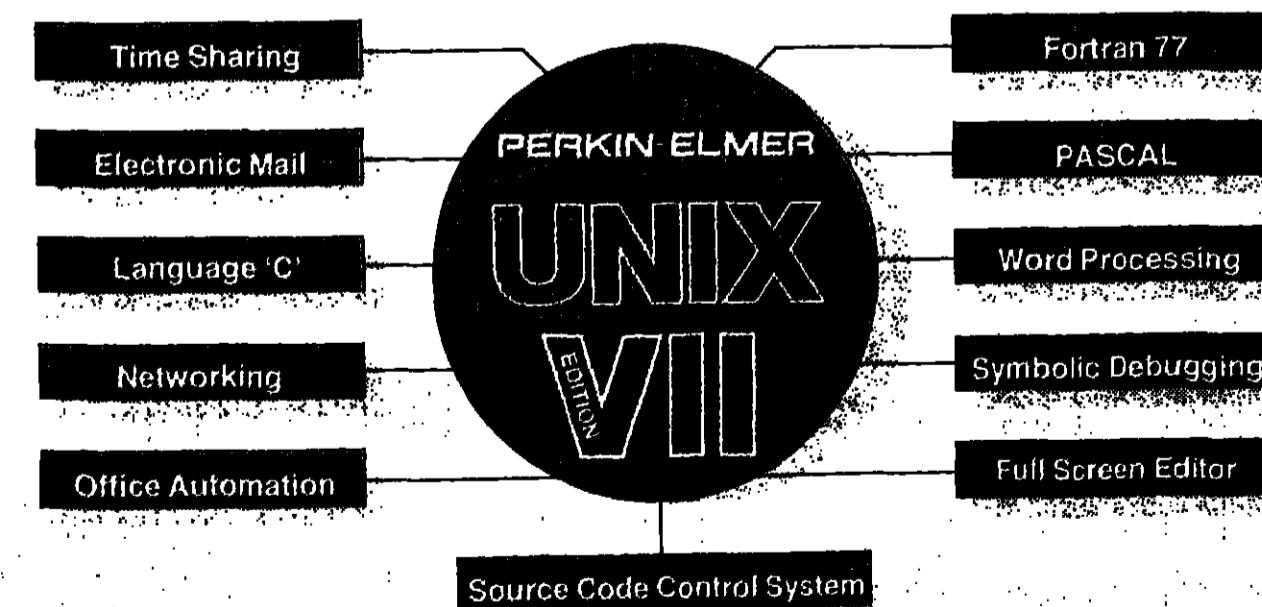
It brings you freedom across all the principal language barriers... freedom to move across hardware divides... freedom to upgrade without massive software rewriting... easy access to the exciting new software developed for 16 bit micros—yet the scope for accommodating up to as many as 128 users.

UNIX plus a whole lot more.

Perkin-Elmer Unix is very much standard Unix (After all the world's first 32 bit Unix was developed on Perkin Elmer hardware in 1975 at Bell). Yet it incorporates some very special features: a full screen editor, the Source Code Control (SCCS) to keep track of a large software project and the speedy MAKE packaging system.

It is advantages like this that have won over users like Oxford University's Department of Astrophysics, and BIS software who develop financial applications for Britain's major banks.

*UNIX is a trademark of Bell Laboratories.



Total Support. It comes as standard.

Perkin-Elmer here in the UK are able to provide full software support for Unix Edition VII with training packages to suit customer needs. And this is opening up new business

in educational and scientific areas all the time at different levels in conjunction with the development of the new Supermini 32 bit hardware. This ranges from the low cost 3205 at around £20,000 right up to the massive 3250 main frame.

So talk now to the 32 bit specialists about your passport to profitable systems management.

To Geraldine Duffy, Perkin-Elmer. Please send me more information

Name _____

Position _____

Address _____

Phone _____

Perkin-Elmer Data Systems Limited,
227 Bath Road, SLOUGH, Berks
SL1 4AX Telephone: (0753) 77777
Telex: 848 721.

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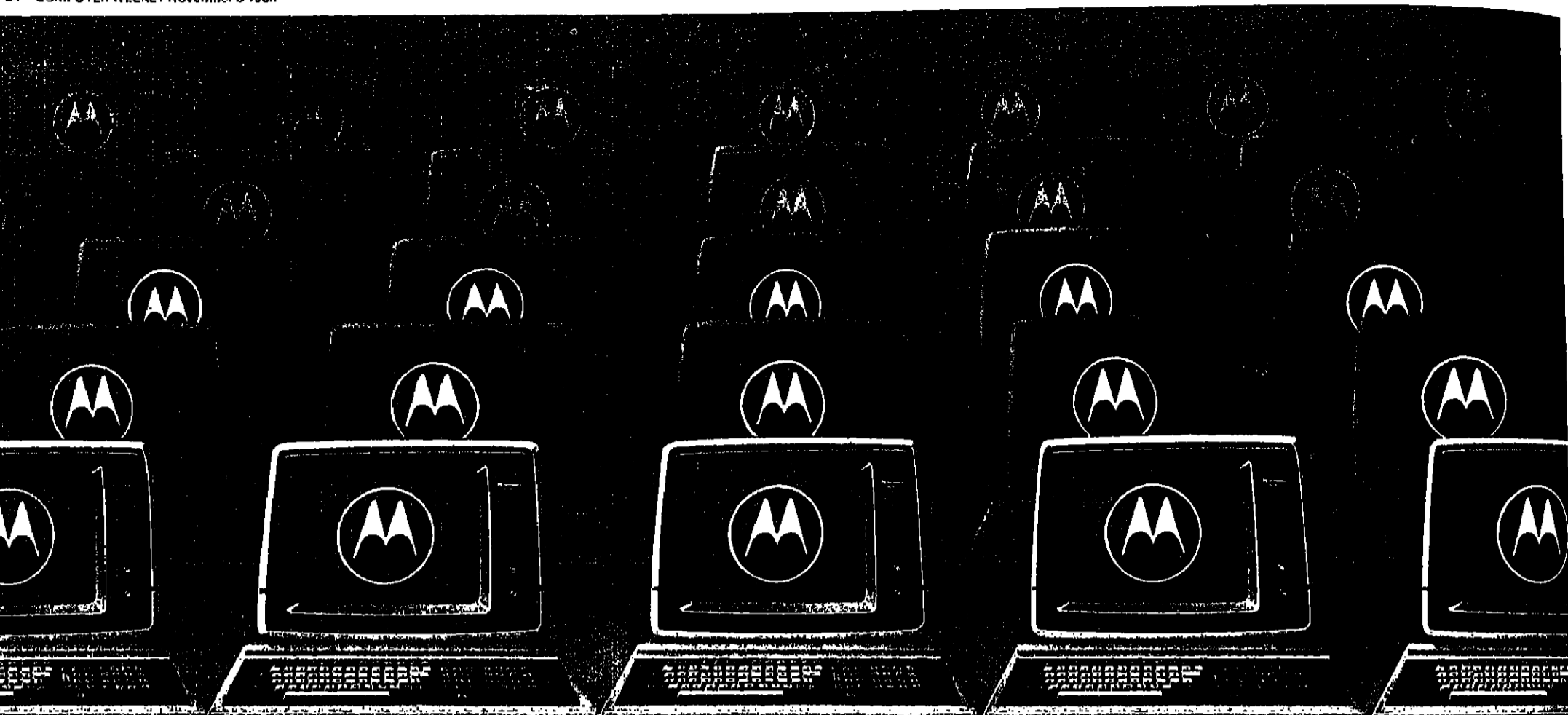
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Motorola creates a new kind of office automation company

Motorola recently created the Motorola Information Systems Group by combining the skills of several companies. Among them were Four Phase Systems and Codex.

The result is a company that brings you complete systems capabilities; a single source for both processing and networking elements in the office environment.

This integration of computing and data communications capabilities provides many advantages.

Obviously, there is the convenience and efficiency of dealing with one vendor for all systems requirements.

But even more important is the opportunity to "custom-tailor" your systems to your specific needs, because of the very broad range of processing and communications products we have available. (Many of these have been productively at work in customer installations in Europe and around the world for years).

In addition, there is the flexibility of our networking capability which allows data from divergent types and makes of

computers to be transported on one network.

Motorola Information Systems Group represents a unique combination of skills, technologies and options for solving problems, now and tomorrow. Motorola, a world leader in electronics, provides support in terms of its size, global scope and financial resources.

And Motorola is no stranger to the worlds of information processing and data communications. The Motorola MC68000 microprocessor is the brain of some of the world's most widely respected microcomputers.

We also share a philosophy based on quality products that meet customer needs and exceed customer expectations.

We hope to prove that to you, soon.

For more information, call us, write us or visit the Motorola Information Systems displays at the upcoming office automation exhibitions. We have a lot to talk about.



MOTOROLA / Information Systems Group

SOFTWARE MONTH

The international banking harvest is ready for reaping

Banking software has great potential. Software Month looks at its successes so far and its future possibilities

THE layman will be excused for thinking that the market for banking software is limited. There are, after all, as few as 400 banks in London, which is still the recognised financial centre of the world.

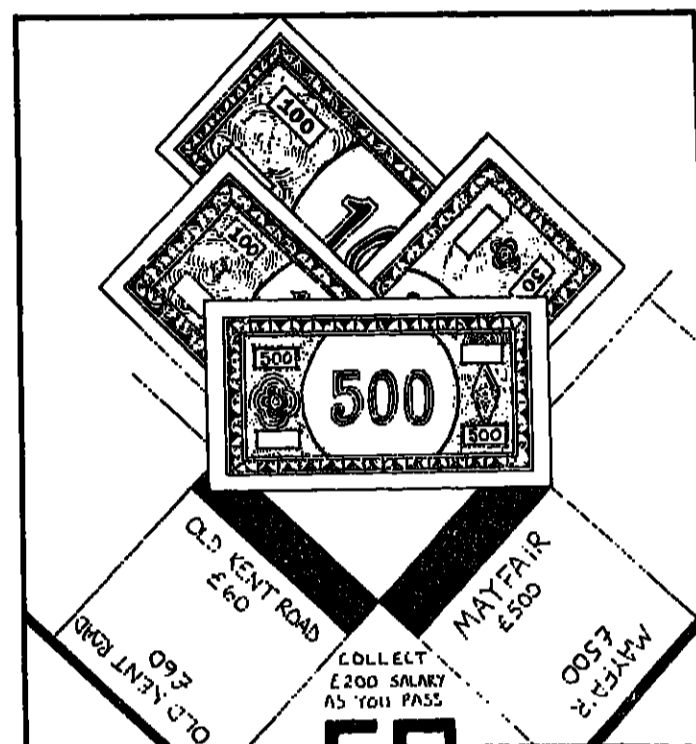
But to explain the importance of the market, one must remember to multiply this 400 by many times in order to cover the whole world market - noting, of course, that finance is international, and this is one of the few applications that doesn't require abortive rewrites for each different geographical location.

And then one must remember the value of the market (one foreign bank recently opened shop in London with an office, a staff of two, and an ICL mainframe).

Note, too, Reuters' rapid rise to enormous profits on the back of its new computerised information service: quadrupled profits in its first year; over £36 million profits last year; and talks of £60 million and £80 million this year and next respectively.

And finally, remember the prestige involved in selling to the large international banks.

Little wonder, then, that ICL should hold a grandiose press gathering to announce its latest sales successes and future plans. The overall presentation was planned to deal with seven major developments, ranging from Chaps and Bags to three major new orders: nearly £1 million for a 2966 mainframe to run Spartacus software for the specialist insurance bureau company, Sherwood Computer Services; a £2 million contract to supply the National Savings Department's Savings Certificates and Save-As-You-Earn office at Durham; and a £3 million plus multiple order - Super Dual 2988 with a CAFS information search processor, an ME29 mid-range mainframe and a System 25



One must remember the value of the banking software market.

minicomputer - for the National Girobank.

This last order will run the bank's own software, but includes IDMS-X (integrated data management system), TPMS (transaction processing management system), Querymaster and Reportmaster.

With such enormous potential, there is little wonder that nearly every major hardware manufacturer and leading software house has its own banking software.

Indeed, one company has specialised in watching everyone else. The company is Distributed Systems, and its products are the Survey of International Banking

Systems and the Survey of Investment Management Systems.

"Our main work is in systems analysis and consultancy within the financial sector," explained managing director John Clapperton. "This work consistently brings us into contact with the different packages available. We decided, therefore, to survey all of the systems, and to make the findings available to potential users - particularly the new foreign banks in the City."

"Since each of the directories represents something equivalent to about three months of top class consultancy (or about £12,000 at today's prices), we feel that a cost of £500 for the banking and £400 for the investment surveys is good value for money."

Sales clearly back up his conviction, for the company has already sold something between 60 and 70 copies. When this is related to the size of the market, with only 400 banks in London, then it is evident that the product has gained a market share that would be the envy of any manufacturer.

The latest edition, incidentally, was published only a few days ago on November 1 1983. It, like its predecessor, covers about 25 of the major banking systems.

Clapperton also explained the history of banking software, and why he felt that his surveys were so important. "By the mid-70s," he said, "about 90% of all the international banks had been computerised."

"The problem is that most of these systems were batch-orientated. This meant that some banks needed to cease trading by 4.00pm in order to start the batch updates. This could then go on until well past midnight if the bank was to have any hope of getting its reports on to management desks by 9.00am next day."

"Apart from the expense of overnight processing, the sheer logistics of getting staff to and from the City in the middle of the night when all life and London Transport had ceased, was no mean feat."

Slowly, the pressures against batch systems began to mount: staffing; newer on-line technologies and lower hardware costs; and, of course, the increasing complexity of international finance - banks simply need minute-by-minute information."

This is a view echoed by Iain Awry, the banking manager at Geisco. "Banks and their larger customers," he explained, "have a particular need to have information from all parts of the world immediately available. When financial decisions are made on a global basis, facts from a large number of countries often need to be consolidated in a very short time."

"A classic example of this is found in international banks making loans to countries and organisations from their branches around the world. If total exposures to each type of debt are not controlled, it is probable that the various branches will continue to lend until prudent levels of risk are exceeded."

Geisco has its own risk control software, called the Global Limits System, which continuously consolidates and updates worldwide limit and exposure information, provides dealers with information on amounts currently available within the present limits, and also provides general management information.

Over 90 banking institutions offer funds management services

"Fresh pressure is emerging from the big international banks"

using Geisco's services (about 80% of all the available systems), while over 400 banks rely on Geisco services as a vehicle to distribute information quickly and confidentially throughout the world.

Fresh pressure, however, said Clapperton, "is emerging through the arrival of the big, and particularly the big American, international banks."

"Because of time differences, these international organisations trading in New York, London, Paris, Frankfurt, the Gulf, Singapore, Hong Kong, Tokyo and Los Angeles are effectively dealing on a 24-hour basis. Trying to get everything into focus demands worldwide, real time communications."

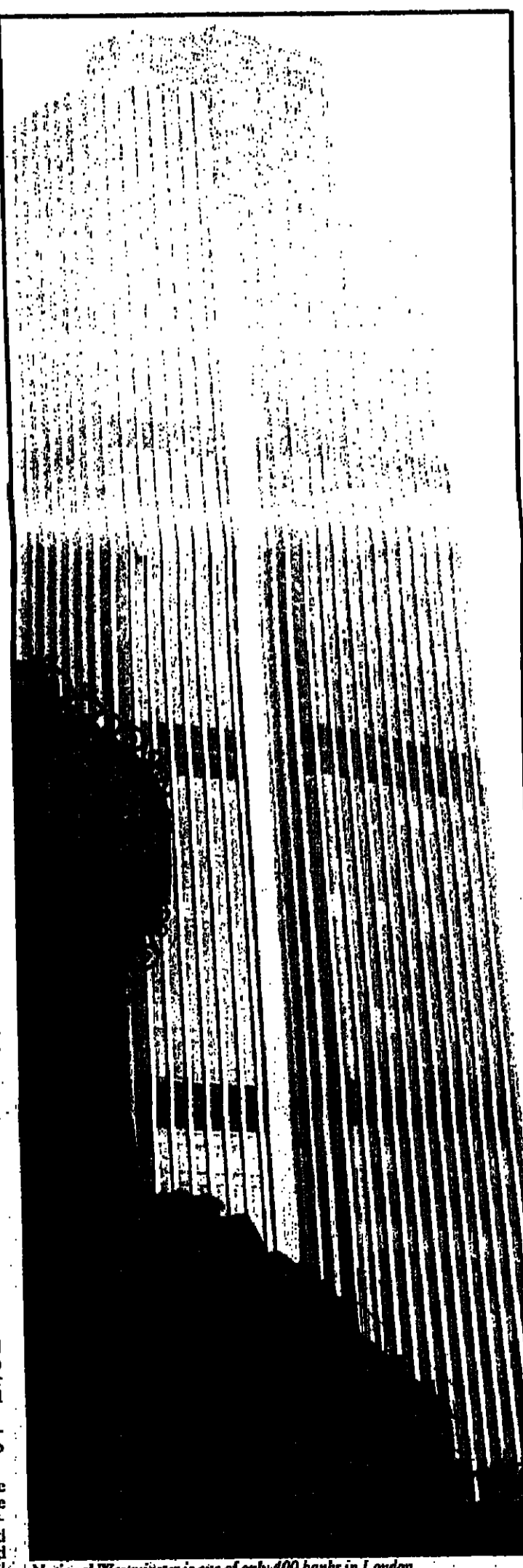
"But not only is the current interest in real time, there is a distinct movement towards a database type of banking system. A bank's larger customers may have different accounts in different branches all around the world, and the bank must therefore be able to get worldwide overall customer profiles to discern the overall credit or debit situation."

"A database approach is essential - how else could a bank keep track of a company like GEC?"

"Real time database systems are beginning to appear, but the majority are still batch systems - hence our surveys, which should save a lot of time and effort, and possibly prevent the odd disaster."



CLAPPERTON: "Banks simply need minute by minute information."



National Westminster is one of only 400 banks in London.

SOFTWARE MONTH

Wind blows through Stock Exchange

Change is giving the computer a niche in the stockbroker market

ACCORDING to Peter Cobb, ICL's Stock Exchange account controller, "there is a wind of change blowing through the Stock Exchange".

It is a wind initiated by the last Labour government, and pressed home by the current Tory regime. It started as an investigation by the Office of Fair Trading (for the traditional Stock Exchange is riddled with restrictive practices), and it has led to a compromise package with the present government.

The Stock Exchange must and will mend its ways - slowly and under protest.

In principle, the role of the stockbroker is very simple. A client goes to his broker and instructs the purchase of stock. The broker, however, cannot go to another broker directly: he must work through a jobber.

It is the jobber who "holds" the stock, and as a middleman makes the deal between two brokers working for their respective clients. There are only 14 jobbers in the country - all but one of whom are based in London.

"In practice, however," says Barry Jenner, managing director of the Timon Computer Group, "the role of the broker is very complicated. The Stock Exchange Rule Book is enormous - the

commission rules alone run to 50 pages!"

To help the broker cope with the demands of the present situation, Jenner's company has developed two compatible systems: Cash (Contract Accounting and Settlement Handler); and Appraise, a portfolio management system that can be used with Cash

around 14-day accounts. The broker and jobber settle their deals at the end of each accounting period with the Stock Exchange computer system, Talisman, which matches the various sales and purchases. But in that time, a large broker may have created something like 20,000 deals with several different jobbers.

the jobber: this is one area that government wants to change, saying the jobber must go. The Stock Exchange itself claims that the system works well enough as it is, but, says Cobb, "it is fighting a losing battle to delay the day of change."

"Within the next few years the role of the jobber as a separate function will disappear. So, too, will fixed commission rates for brokers."

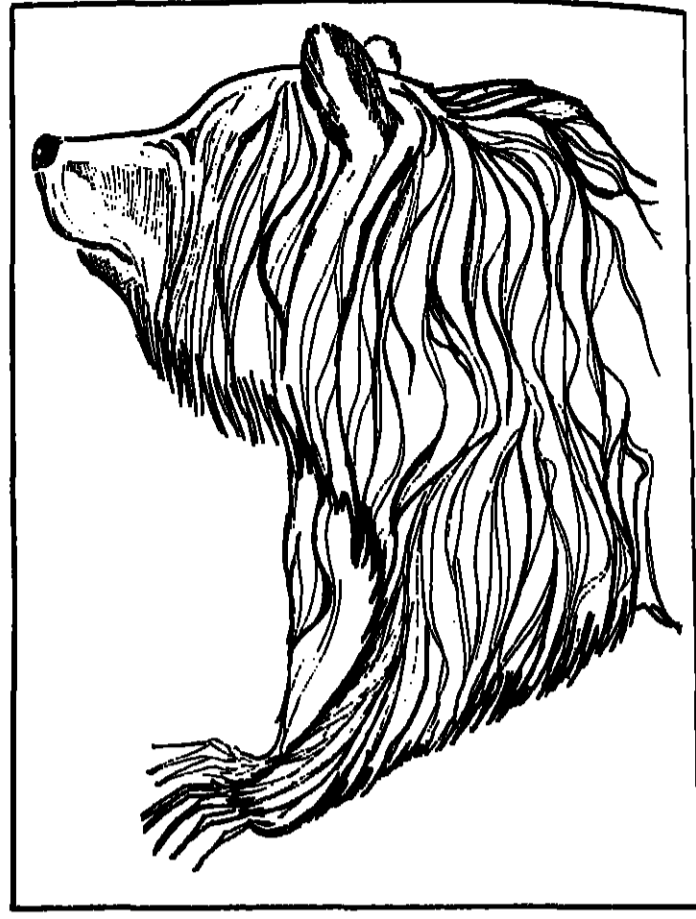
Fixed commission rates are anathema to free enterprise, which is why they must go. But even the tightest cartel will break in time (as in Opec and the building societies).

Sooner or later stockbrokers will undercut each other to win more business - and the only way this can be done, without reducing the service, is by using computers.

Timon's Cash program, running on ICL equipment from the ME29 upwards, is one.

"Brokers," says Jenner, "are judged by their service." The workload of the average broker, however, fluctuates from day to day. "One day he might make 1,000 bargains, next he'll make 100. It's very difficult to staff these situations - to employ enough people to cope with the peaks without straining the finances of the company."

"Cash can handle up to 2,000



The Bear...

bargains a day, and can smooth out the peaks and troughs of workload. It handles all the back office accounting and paperwork aspects of the work."

Computers, then, by increasing efficiency, will fuel the fires of competition. Once one or two leading brokers are computerised, and fixed commission rates are abolished, all brokers will need to use computers in order to survive.

The second threat to the status quo will come with the abolition of the jobber's function as a separate entity. The jobber's role will merge with that of the broker, a

system known as "dual capacity" that already operates in the US.

The broker will need vast sums of capital in order to hold the stock to enable him to deal with other brokers - and the danger is that it will come from North America, where there is already substantial capital, dual capacity experience, and extensive computerisation.

At the moment, the present situation excludes American intervention; but the short term future may well see US companies moving into the Stock Exchange in the same way as the last few years have seen their arrival in the UK insurance market.

"It is clear," says Jenner, "that UK stockbrokers must computerise fast if they mean to face the future with confidence."

Cash is an ICL TraderPoint system. Cobb explains the background: "In the past ICL had a strong presence in the City, but much of this was lost in the bad days of the late '70s. Now we are beginning to reassert ourselves, and have won a number of major orders in the last few months."

"Portfolio managers can see at a glance all their clients' details on the screen"

"Until recently all of our installations in the stock market have used their own purpose-built software, and there hasn't been much interchange between them."

"We started developing our own package in conjunction with an existing user, but the whole project became too costly. So we looked around the packaged market and found Cash."

"Timon has put something like 80 man years of effort into the system, and has the software support facilities and the market knowledge to back up ICL's hardware support."

Cash can interface to the second Timon package, Appraise. Where Cash handles the back-office functions, Appraise is a portfolio management system.

"Portfolio managers," explains Jenner, "whether they are with a broker, an insurance company, a pension company or simply a large corporation, can see at a glance all their clients' details on the screen, while actually talking to that client on the phone."

Support for the Timon packages comes from Gerry Chalmers, partner in the stock trading firm, Quilter Goodison: "We've got the system on a three-month trial while we adapt it to our procedures, and our procedures to it. It is already clear, however, that Appraise is the best portfolio management suite I have seen."

SOFTWARE MONTH

Banking on powerful profits

Rigid bureaux or flexible in-house computer departments? The competition for financial orders is hotter than ever

INTERNATIONAL finance is synonymous with profits - for the computer industry as well as the banks themselves. ICL's latest crop of financial orders has already been described in Software Month; as has Reuters' continued growth.

As one software house describes it, "it's not a big market, but then they're not cheap systems".

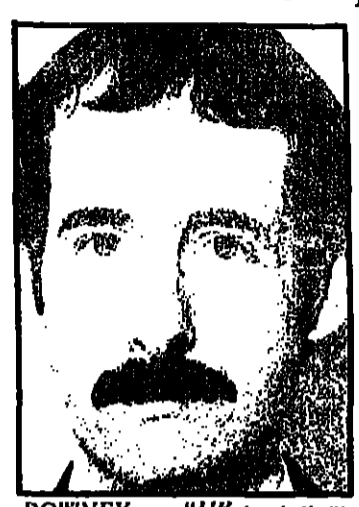
There is choice, however, and whenever this happens, the software market soon becomes oversubscribed. It hasn't happened yet in banking software, but it is surely on the way.

One of the first battles is the continuing one between in-house and bureau supporters. Barry Jenner of the Timon Group claims that there is a distinct move "away from bureau services, because on the one hand it is expensive, and on the other hand it is inflexible".

Jenner specialises in software for the Stock Exchange, and says: "The broker will need to provide a total, flexible service; and the bureau cannot provide new services quickly enough. Hardware costs are coming down all the time, so moving in-house is particularly cost-efficient - in fact, I cannot see the smaller bureaux lasting for much longer than another three years."

They're caught in a vicious circle - as their clients desert them they are forced to put their prices up to make up the revenue, and when this happens, more clients are tempted to move in-house."

Jenner is not, of course, suggesting that bureaux of the size of Geico will be out of business within three years. International



DOWNNEY... "UK prospects remain excellent"

provide front office capabilities, the idea concept was that, as transactions emanate from the front office, so a modern banking system should be dealer driven, and management control information should be available minute by minute - and not on a historical basis."

This competes head-on with ICL's BankMaster, which was developed by Triple A Systems and launched almost two years ago. During those two years the system has had 15 installations, 10 of which are based in the UK and six were during the last six months.

"Prospects in the UK, based on current negotiations," says managing director Ron Downey, "remain excellent. We are about to go international (with a launch in Hong Kong at the end of October), and we expect to take Far East orders within a few weeks."

The marketplace for BankMaster is not the clearing houses, but the smaller foreign banks and merchant banks throughout the world.

"When we first entered the market, the majority of systems were either batch or tweaked batch - and they were also expensive," says Downey. "We saw an opening for a new package designed from the outset as a package."

"Again, unlike many of our competitors, BankMaster is not an adapted single-customer product forced into a package role. It is a parameter-driven, real time, on-line, modular, multi-currency banking system, handling all areas of retail and wholesale banking. Because it is parameter-driven, the end result is that Triple A delivers a tailored package to its users."

But it is not just mainframes that are involved in the banking market. The Sidney Development Corporation has a distributed processing system for brokers, with local micros and software interfaces into microcomputing standards like WordStar and SuperCalc.

Reuters is also moving into the market. "The Reuter Monitor Dealing Service," explains Iain Smith, projects planning manager, "was launched in February 1981

and now serves over 400 subscribers worldwide, enabling banks to conclude foreign exchange transactions within four seconds via a dedicated part of the Reuter worldwide communications network. The network is itself the largest privately leased line network in the world."

This, as everyone is by now aware, has proved phenomenally successful, and has provided Reuters with the finance and incentive to move further into the banking software market.

"We have acquired," Smith continues, "exclusive rights to the position-keeping package developed by Hovland Business Systems."

"There were a number of reasons for choosing the Hovland System. The ability to do away with the traditional pencil and paper at the dealer's desk by giving him an automatic record of his transactions in relation to his overall position is a significant marketing development."

"Unlike most other systems attempting to capture the same information, it has been deliberately designed so that the dealer himself can enter all the information required with a minimum number of keystrokes - as little as six in some cases."

"Unlike any other system, automatic access to the Reuter Monitor Dealing Service and the Reuter Money Rates Service is provided direct from the dealer's workstation."

"Another prime feature of the Hovland development is that the data is entered via a digitiser and can thus be entered in random order according to what information is available to the dealer. This corresponds to the real world where the dealer does not necessarily know whether his first concern is going to be a particular currency, or a particular bank, or a particular broker."

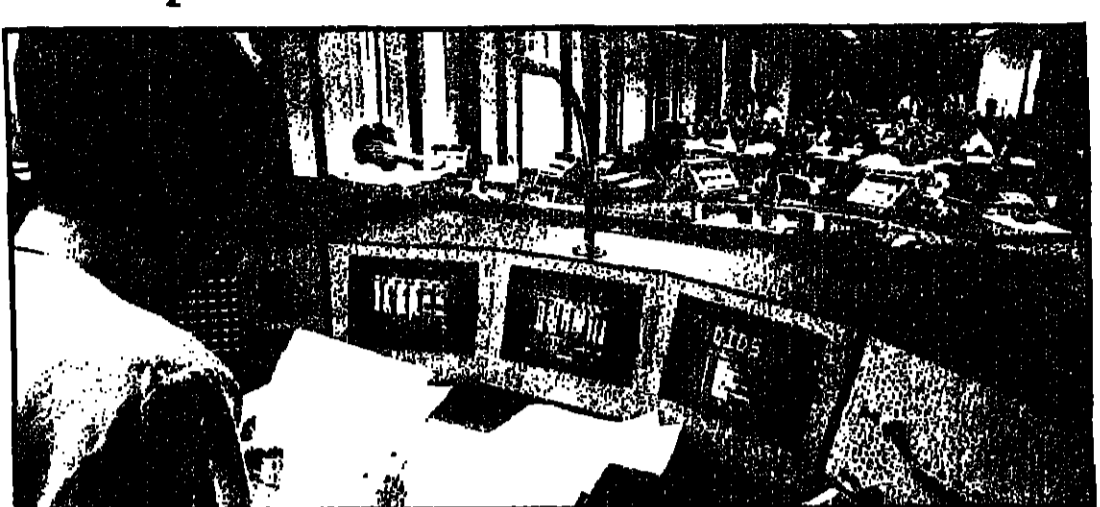
Significantly, there is a Reuters terminal on the desk of one of the major American banks in London - as well as a VT100, an IBM PC, and a couple of printers. The bank has asked not to be named although it can be described as an American equivalent to Barclays.

It has a new UK software package developed by GBC Viewdata Systems and called Foxi. This is an up-to-the-minute real time database foreign exchange dealers and management information system.

"The system," says a spokesman for the American bank, "is really excellent. It has given us a real edge in the market."

"When somebody wants a quote for currency, we can do it much faster than our rivals without Foxi - it even updates Reuters pages in five to 10 seconds. And it is excellent in enabling our dealers to spot arbitrage opportunities."

"But I couldn't recommend it to anyone, because GBC's back up is simply appalling."



The foreign exchange market used to be conducted through telephone and telex.



Now the Reuter Monitor is a leading financial information service.

It is not just mainframes that are involved in the banking market

time-sharing systems of this size will surely remain for many years yet.

Geico employs more than 5,000 people in over 180 offices throughout 26 countries. Its 1982 revenues exceeded \$600 million, and, in the UK, its services are used by more than 60 of The Times Top 100 companies.

Geico sees its banking role as one of "integrating global communications technology and central computers with a variety of local systems in branch and central offices."

As Iain Awty puts it: "Any organisation that depends on accurate, up-to-date information from many locations, perhaps in different countries, is bound to depend heavily on multi-site, multi-user systems."

"Computers on their own, without a means to share information over a distance, can never give such organisations the full benefits offered by electronic methods of handling information."

One company that aims to offer its users a choice of both in-house and bureau systems is Tymshare Inc, a company founded in 1966 as a computer services company offering interactive timesharing bureau facilities through its worldwide international communication network.

Its main financial offering is Ibis, which, according to Paul Field, manager banking systems, "is available on a timesharing basis or can be installed in-house on Digital's computers."

He continues: "Ibis is an online, real-time computer system designed to meet the management control and information requirements of international banks in the 1980s."

"Unlike many banking systems, which were designed as accounting systems and then developed to



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GRAUBARD... "Banks must look for solutions to attract customers."

Attractive software comes to the UK

Customer-oriented banking software is poised to cross the Atlantic

IN the US, banks give away toasters to attract new customers. It is all part of what the Americans call "relationship banking".

Hogan Systems, a Dallas, Texas, software company, is determined to bring relationship banking to the UK, although probably without the toasters.

Hogan is a typical US success story — started in 1977, it delivered its first system in 1979. It has since sold software to well over 80 of the largest US financial institutions.

It went public at the end of 1982, and is determined to attain the same success in the UK that it has already achieved in the US. For the year ending March 31, Hogan reported \$3.7 million profits on sales of \$17.1 million.

It is believed finally to have made its first breakthrough in the UK with a £1 million plus order from one of the major clearing banks. With word of mouth selling particularly important in banking circles, that order could provide the springboard for further UK sales.

Richard Steller, president of Hogan Systems, describes relationship banking in the following way: "Free market movement demands that banks be prepared to react quickly to competitive moves and customer needs. They must be able to determine accurately the profitability of groups of customers or even of specific customers."

"The banks must be ready to tailor financial services to each customer, depending on that customer's total relationship with the institution."

What Hogan offers is software designed for IBM, or IBM compatible systems, which allows banks or building societies to tailor services for customers. As importantly, it allows branch managers to analyse individual customers' requirements and determine whether they will actually be profitable customers for the banks.

According to Allan Graubard, vice-president, international marketing, Hogan software is customer rather than account based. Hogan provides "what if" type products, which can determine whether certain customers are profitable to the bank.

It is a hard truth, but some customers are unprofitable: banks in the US have been known to raise the charges so high for unprofitable (although reliable) customers that they have driven them away. The result has had a happy effect on the banks' balance sheets.

Graubard, who has the responsibility of setting up distributor networks outside the US believes the market pressures which have made Hogan software so attractive in the US are beginning to emerge in the UK. The entry of the building societies into traditional banking areas, and the entry of banks into the mortgage market, are examples of the new competition.

Banks, Graubard says, must look for new solutions — solutions to attract new customers.

The need for innovative marketing by banks means they need to change their systems, he says. The choice is for banks to develop their own systems, or go out and buy a package.

In either case, the system must be online. Hogan believes there are not too many banks which will want to "reinvent the wheel".

But Hogan's success in the US may not be so easily translated to the UK. UK banking is slow-moving, and there is a natural distrust of the American methods among many traditional bankers.

Wade Hanson, Hogan vice-president for sales, stresses, however, that Hogan is "dedicated to its European effort", and in for the long term. Hogan fully expects to put \$1 million into marketing Hogan products in Europe before he gets his first \$1 in return.

Hogan's market in the US is financial institutions with assets of over \$750 million, which means 300 of the largest US banks.

Hanson says that from the beginning Hogan knew it could not take the "big bang approach" and build a total system from scratch. Instead it has built individual components around a central unifying architecture.

Hogan's strategy has been to get participating banks involved in the development of products. The banks fund the developments, and Hogan ensures the user point of view is taken into account in developing software.

When the product actually goes to the marketplace, Hogan pays

Hanson believes plastic is going to be the final communications medium

back a percentage of the money that the banks have invested.

So far Hogan has five major modules to its banking software. The first product in building the system was a deposit system, which processes all types of deposit transactions.

At the heart of all the software is what Hogan calls its Prophet System, which is central to the relationship approach that Hogan espouses. It allows financial institutions to analyse the overall banking relationship and determine profitability for particular customer or groups of customers.

Other modules being delivered are the Online Delivery System, software that links mainframe systems with automatic teller machines and manned tellers; a loans system; and an online collection system for management of all types of payments.

Under development is a "total card system", which will process all types of plastic card offerings, with on-line application processing and interface to national networks.

Hanson firmly believes that plastic is going to be the final communications medium between banks and their customers.

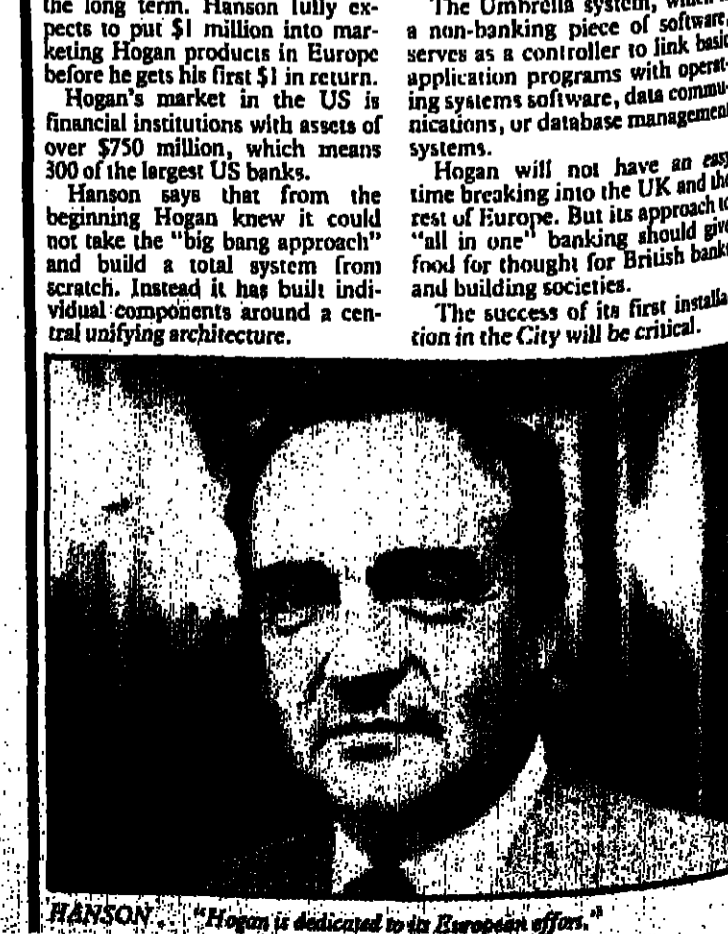
Also underway is a financial information system, which will include general ledger and reporting applications.

The architecture central to the individual modules is a software system called Umbrella. Umbrella, says Hanson, is the hub of the wheel, an independent module around which the others are built.

The Umbrella system, which is a non-banking piece of software, serves as a controller to link basic application programs with operating systems software, data communications, or database management systems.

Hogan will not have an easy time breaking into the UK and the rest of Europe. But its approach to "all in one" banking should give food for thought for British banks and building societies.

The success of its first installation in the City will be critical.



HANSON... "Hogan is dedicated to its European effort."



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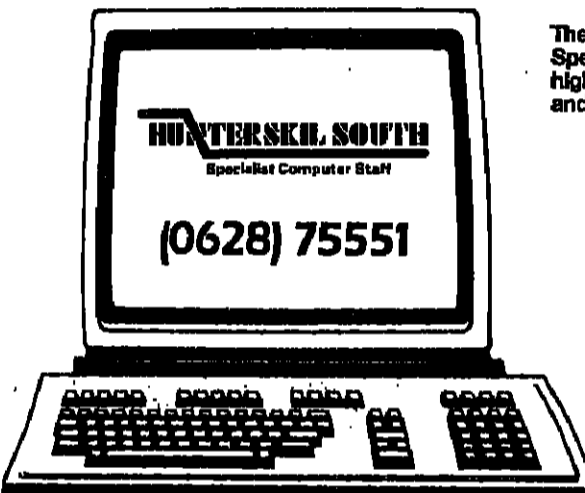
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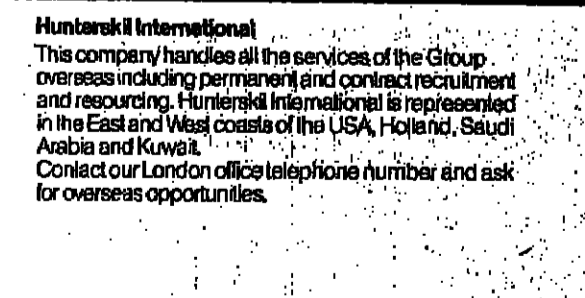
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Saudi Arabia

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Systems Programmer £15,500 to £23,000

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Please write or telephone for an application form (quoting reference SC/7) to: John Nicholson, ARA International, 17/19 Maddox Street, London W1R 0EY. Telephone: 01-629 2358 or 01-491 8013 (ansaphone).

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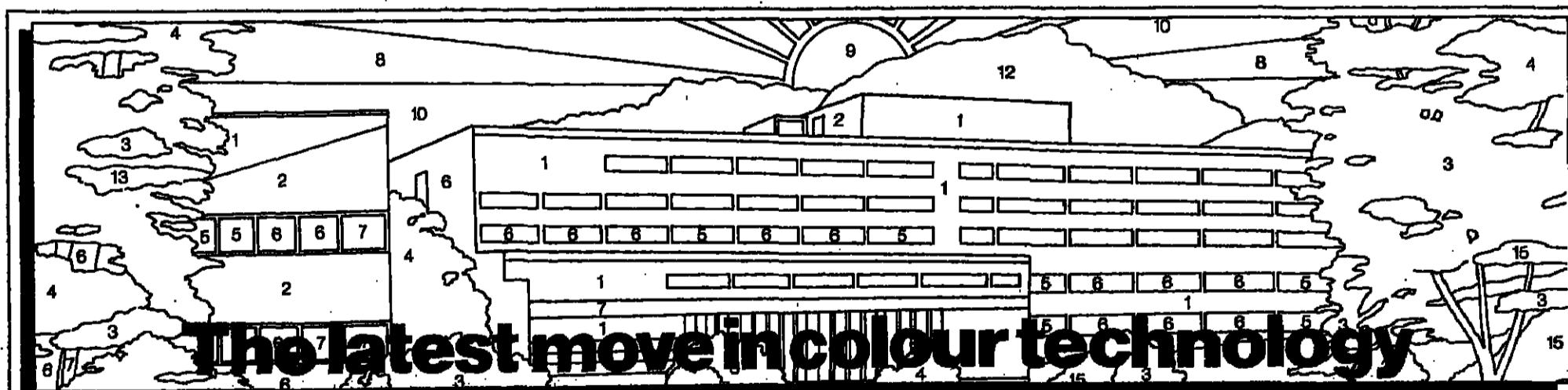
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We hope that we've coloured in the picture a little, now we'd like to talk to you and add some depth. Call Beverly Dawson on 01-272 0841 during office hours (or leave a message on our answering machine, she'll arrange for one of our technical people to call you back - either at home or work - and have a more detailed chat about what the future could hold.

Alternatively write for our information package enclosing a brief CV to: Stephen Smith, Resourcing Manager, Crosfield Electronics Ltd., Holloway Road, London N19 3JG.

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For an initial and confidential discussion please call Bob Rae on Newbury (0635) 33445 quoting reference A/144 or write in strict confidence to:-

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Support Consultant -

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For further details telephone Steven Knowles-Dar on 01-370 2012/3, or alternatively send a cv, to him at N.K.B. Associates Ltd, 159 Gloucester Road, London SW7 4TH. All enquiries will be treated with the strictest confidence.

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D.E.C. Comms Systems London & E.E.C.: Salaries to £16K

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London and Midlands: Salaries to £11K

A highly respected supplier of UNIX based Microcomputers, Systems and Networks is currently seeking to recruit a number of exceptional Applications Engineers for its London (City) and Midlands based operations. Applicants, aged 25-40 years should be qualified to HND level or degree and/or have a minimum of 3 years relevant practical experience in a UNIX, CP/M or financial accounting environment. Your programming background must include fluency in two or more of: C, PASCAL, FORTRAN, COBOL or Business BASIC. Those candidates fully familiar with U.K. accounting practice and also having a current background in financial or systems analysis are especially encouraged to apply. It would be advantageous if applicants had used or implemented a relational database (e.g. DBASE II, INFORMICS or RAPPORT) in a business environment. Since all positions entail a significant degree of client contact in the form of product demonstrations, seminars and on-site client training, our clients value well developed inter-personal skills. Additionally, candidates will be expected to visit clients' sites in a pre or post-sale support role. A willingness to travel within the U.K. and when necessary is therefore of paramount importance. Our clients offer a competitive salary, generous Company benefits, and outstanding career prospects. Individuals who feel that they meet the specification outlined should either forward a well documented resume or, alternatively, telephone one of our Consultants quoting Ref: LJS/B.

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Real-time Analysts and Programmers, with at least 2 years post graduate industrial experience, are urgently sought by a leading software consultancy. The broad range of projects they undertake, ranging from advanced defence systems through to office automation products, guarantee a varied and stimulating working environment. Your

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Process Control Systems

London: Salaries to £15K

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HP 3000 hardware, but candidates who have real-time software development experience on other mini-computers should not be deterred from applying. For the positions of Designer and Consultant, it is anticipated that you will have a background in process control applications, particularly within food, drugs or energy industries. Ref: L/44/D

CORAL 66 Programmers

S.Home Counties: Salaries to £11K

Applications Programmers and Designers are currently required by the software development division of a leading Systems Supplier. Suitable applicants should offer a minimum of eighteen months CORAL 66 programming experience in a real-time mini-computer or micro-processor environment. Particular hardware experience is not

important, but familiarity with PDP/11, VAX, Ferranti Argus or the GEC 4000 series would be a distinct advantage. Our client offers an excellent training programme and there will be every opportunity for successful applicants to learn new skills and progress into either a Management or Consultancy role. Ref: L/44/E

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RPG II/III

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IBM SYSTEM 38/RPG III
HANTS £10-£13,000

A major multi-national electronics group based in Hants require a Senior Analyst/Programmer to develop and maintain a D.P. package for manufacturing applications. The main requirements are for a self-motivated individual with a minimum of 12 months' IBM System 38/RPG III. To work with a small team of D.P. professionals and be well rewarded in terms of conditions and salary. REF: GW2899

IBM SYSTEM 38
LONDON/MIDDLESEX BORDERS
To £13,500

Work locally for an expanding, established management finance company. Handling an IBM System 38 they require 18 months' + REF III experience with analytical capabilities. A mature outlook is essential along with the ability to fit in with a friendly team, and take responsibility for a large financial project. Superb offers and excellent financial rewards. REF: GW2475

IBM
OPPORTUNITIESCOBOL PROGRAMMERS
£9-£10,500

Have you two years' experience, preferably on IBM hardware? Would you like to work on development of a brand new package? To strengthen their team, my client requires a programmer with two years' DOS/VSE experience. Knowledge of CICS or other on-line systems an added advantage as is Easytrieve or ASSEMBLER. Normal range of fringe benefits associated with a large company and nice career prospects. REF: EW2867

SYSTEM ANALYSTS
PROGRAMMERS
BUCKS To £13,000

Outstanding opportunity for Systems Analysts or good Analyst/Programmers to utilise their technical skills. You should have four to five years' D.P. experience in a large commercial environment. The company run an IBM 4331, VM/CMS, VSAM & COBOL, so some knowledge of these skills is essential. The programming positions are at all levels, from 12 months + IBM COBOL. Package includes free BUPA, excellent leisure activities and relocation costs. REF: EW28253

BANKING BENEFITS IBM COBOL
To £11,500

London-based international bank with a firm commitment to on-line development, requires IBM COBOL programmers with at least six months' CICS experience, to assist in the support and development of banking projects. Great team atmosphere and full perks including subsidised mortgage after three months. REF: CW1359

COBOL OR ASSEMBLER
CITY £9-£13,500

My client is a City-based financial services organisation running IBM 4341s under DOS/VSE with CICS. They are seeking a programmer and a senior analyst/programmer, with sound IBM experience, and a lively personality to fit into their energetic team supporting and developing a range of new financial facilities using CICS. For the programmer, 18 months + IBM ASSEMBLER or COBOL is required, preferably with some financial experience, and for the senior, around three to four years' experience, with the ability to progress to a management role in the future. REF: CW2762

SYSTEMS PROGRAMMER
HERTS To £12,000 + mortgage

If you have four years' D.P. experience of which two have been in systems programming and would like a demanding and challenging position my client has the job to provide the opportunities for you. They require a new member to complement their team, with knowledge of either VM, VSAM, CICS or other on-line systems. The work will involve comparisons to MVS, DL/I over the course of years so familiarity with either will be a distinct advantage. The company offer generous mortgage assistance, staff an excellent time, sport and social club, free lunches and an excellent pension scheme. REF: EW2755

IBM ALL LEVELS
£8-£13,000

Three London-based software houses urgently need your IBM expertise. They are seeking all levels of IBM COBOL, but you must be able to offer some experience of either CICS work or databases, i.e. DL/I, TOTAL, IDMS, IMS, plus the personality and ability to liaise with clients and work to time schedules. Prospects are excellent and the variety of work covers all aspects of computing. REF: CUGEN

ANALYST PROGRAMMER
CICS TRAINING
£9-£11,000

My client has two openings for Analyst/Programmers with good PL/I or COBOL programming. If you have a proven track record with at least one project from feasibility through to implementation, and would like to work on new development projects and receive training in CICS this could be your next career move. Ideally candidates will have two years' experience in a DOS/VSE installation; a knowledge of VSAM or VM/CMS would be an advantage. They offer non-contributory pension scheme and relocation assistance where appropriate. REF: EW2891

IBM DERKSHIRE
£9,500

Programmer urgently required for this retail organisation, utilising IBM 4341s for production, and IBM 3035 for development, 18 months + IBM COBOL required together with some of the following: DOS/VSE, VM/CMS, VSAM, CICS, MAN/IS or DL/I. Benefits include paid overtime, free BUPA and relocation. REF: CW2883

OTHERS

BURROUGHS SENIOR
LONDON £11,500

This highly successful international company are moving applications from programmers with several years' experience on Burroughs medium or large mainframes. The essential requirements are good COBOL with recent on-line and database exposure, a dedication to a high standard of professionalism, and the desire to join a company where your long-term career prospects are assured. In return they offer a luxurious working environment, sub rest, BUPA, bonus scheme, an excellent salary plus full relocation costs where necessary. REF: MW2929

DEC/VAX - BASIC +
£10,500

My client, the London-based division of a major conglomerate organisation, is expanding and is seeking to recruit DEC/VAX expertise within a BASIC + environment. You will be working within medium sized teams developing commercial systems to a high standard. It is hoped that within six months the successful applicant will be developing systems from initial user contact through to implementation. Training will be given wherever necessary. REF: AW1016

PROGRAMMER
ENEG

This manufacturing company situated on the Herts/Beds borders is currently offering an excellent career step for those seeking to be at the forefront of new applications. The essential requirement is for someone experienced with ICL equipment preferably with exposure to VME and IDMS TPS. This is an interesting and challenging position, with good salary and career prospects. REF: DW2490

DATA GENERAL
£14,000

Due to continued expansion this London-based software house is looking to recruit a top class programmer with 18 months + Data General Business Basic experience. A first class career move as the work is 99% development, involving numerous applications and offers the opportunity to gain experience on several different machines. If you fit these requirements and would like to secure a responsible role with a go-ahead company please contact us for further details. REF: MW2743

HEWLETT PACKARD - COBOL
£10,500

A minimum of six months' HP COBOL is sought by this international company based on the Herts/Beds borders. Training is being offered in analysis, but it is hoped that you will be familiar with IMAGE, VIEW and/or QUERY. Development of a major new system is underway and there may be more planned for the future. If you would like to become part of this small but efficient team call me now for more details. REF: AW2369

ICL ME29
CITY To £12,500

This is an excellent opportunity for a D.P. professional to take up a key position within this well-established insurance company. The company have 2 x 1.1 ME29 running under IML. Applicants should have a minimum of 18 months' D.P. COBOL experience, with extensive experience in TPS. You will play an integral part in user training and design and implementation of a range of insurance and business systems. This is an interesting position offering career prospects, in-house education, exciting development projects, and a pleasant and flexible working environment. Excellent package including subsidised lunches and four weeks' holiday. REF: DW2452

UNIVAC PROGRAMMER
£11,000 + subs mort

An opportunity has arisen for experienced UNIVAC programmers to join an expanding installation where their excellent database and on-line experience will be fully utilised and rewarded. The UNIVAC mainframe supports a network service to 13 remote sites and 150 terminals. All development work is centred around the creation, maintenance and use of on-line systems performing real-time processing of database files. You will be working with a group of computer professionals who have a proven record of database system development success. In addition to an excellent salary you will work flexibly enjoying excellent company benefits including sub-mortgage. REF: MW2836

HEWLETT PACKARD - COBOL
To £12,000

As an Analyst/Programmer within this City based distribution concern you will be developing new financial and commercial systems from initial user contact stage through to implementation. The successful applicant must have a minimum of two years' D.P. experience and have an in-depth knowledge of HP IBM, COBOL, IMAGE, VII-W and QUERY. Promotion prospects are excellent and it is anticipated that he/she will be able to act as relief D.P.M. when necessary. REF: AW2792

HONEYWELL COBOL
LONDON To £11,000 + subs mort

My client is among the most successful in its field and due to expansion is looking to recruit additional numbers of staff. The essential requirements are for 18 months + COBOL and/or SCRT/NWRIT experience. This is a superb opportunity to utilise your skills within a DPS installation and to move into an extremely interesting position which will involve lots of development work. They are offering a competitive salary supported by a substantial range of fringe benefits associated with a major company. If you are interested in an exciting and challenging career and are seeking opportunity and responsibility, call now for further details. REF: MW2568

WANG ALL LEVELS
To £16,000 + Co. Car

My client is a very prestigious and profitable organisation based on the West London/Herts borders. Due to company expansion they now have requirements for Wang programmers at all levels with good knowledge of COBOL, or BASIC, and possibly ASSEMBLER. They also require a senior programmer/analyst with good communication skills, to eventually take charge of the application side of the department, and the development of new systems. European travel is also envisaged. Although WANG experience is not essential for this post the ideal candidate will already have proved himself in a progressive commercial environment and will now be looking to take a step up the ladder. REF: MW2915

HEWLETT PACKARD - SENIORS
To £15,000 + Relocation

Our client have five clients, one based in London and one in Berks, seeking Project Leaders. Both positions entail leading close-knit teams who work to extremely high standards, both in commercial and financial environments. For both you must display a thorough knowledge of HP 3000, and hopefully have a COBOL background and supervisory experience. There are excellent prospects for progression into management positions in the near future. Both companies offer an excellent package which may include BUPA, £250 per year L.V.s, and relocation assistance. REF: AW22678

ICL 2900 SYSTEMS
SURREY £9,500 + Mort

This Surrey-based insurance concern currently in the process of developing new systems are offering interesting and challenging work to programmers and analysts/programmers who can offer 18 months + ICL COBOL. Experience of VME would be desirable and will be rewarded accordingly. Full training is offered in database techniques, TP systems and aspects of systems design. This is an excellent opportunity to gain varied and practical experience whilst pursuing a worthwhile career. Company benefits include four weeks' holiday, subsidised restaurant and pension scheme. DW1739

Ministry of Defence

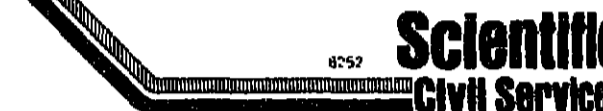
Computer Specialists

There are currently the following opportunities:

Royal Naval Engineering College, Manadon, Plymouth
Applications Programmer
... to be responsible for application programming tasks, providing detailed advice to staff and students, supporting and developing graphics facilities.
Candidates should have a degree in Science or related subject and experience or interest in the above areas.
Appointment as Scientific Officer

Royal Military College of Science, Shrivenham, Swindon, Wilts.
Programmer
... to undertake a wide range of programming activities, mainly application programs but also assisting in the development of systems software.
Candidates should have an honours degree with a strong computing content and at least two years postgraduate experience. A minimum of one year's practical programming experience and familiarity with at least two of BASIC, PASCAL, FORTRAN or CORAL 68 is desirable.
Appointment as Higher Scientific Officer

Salaries: Higher Scientific Officer £7145-£9560, Scientific Officer £5680-£7765.
Starting salary according to qualifications and experience.
For further details and an application form (to be returned by 25 November 1983) write to Civil Service Commission, Alencon Link, Basingstoke, Hants RG21 1R, or telephone Basingstoke (0256) 68551 (answering service operates outside office hours).
Please quote ref SY/15/D.

PROGRAMMERS
FOR
U.S.A.

Top dollars and Green Card USA based consulting firm seeks Global programmers with 1 to 10 years' experience, exposure to IBM mainframes, IMS and CICS preferred. Good resume and salary required.

Amish Kulkarni or Joseph Parman, Avitron Data Systems, P. 21 Broadway, Elmhurst, NY 11433 USA (212) 479-5178

Or call for local interviews
November 10th and 11th
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VIDEO FRUIT SERVICES, who are situated in South East Cardiff, specialise in producing conversion kits for fruit machines. We are prepared to pay £5,000 + (negotiable) for a good PROGRAMMER (preferably graduate) with experience in ASSEMBLY LANGUAGE programming on at least one of the following micro-processors:

Zilog	250
Motorola	6800
Intel	4040
Texas	5950
NEC	8020

Experience with the CP/M operating system would also be an advantage. If you think you are the right person for this growing company, please telephone to arrange an interview.

Cardiff (0222) 489555
or 489500

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To meet our expanding computer installation we have a vacancy for an Analyst/Programmer. Experience of Honeywell TPS and Screen write or Database is essential. Cobol and online system experience would be an advantage.

Main objectives would be to direct and co-ordinate the investigation, design and introduction of data processing procedures to meet required business needs.

Working conditions are excellent. Salary c £10,000 per annum. Good Pension and Life Assurance Scheme is available. Free Lunches are provided and there is an Assisted Travel Scheme.

Applications in writing are invited from Programmers with at least two years' experience.

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- Completion of an Instructional Techniques Course plus a minimum of 2 years classroom instructing.
- Or more than 3 years experience of classroom instructing.

These appointments have tax free salaries and overseas allowance. For further details write stating experience, age and qualifications.

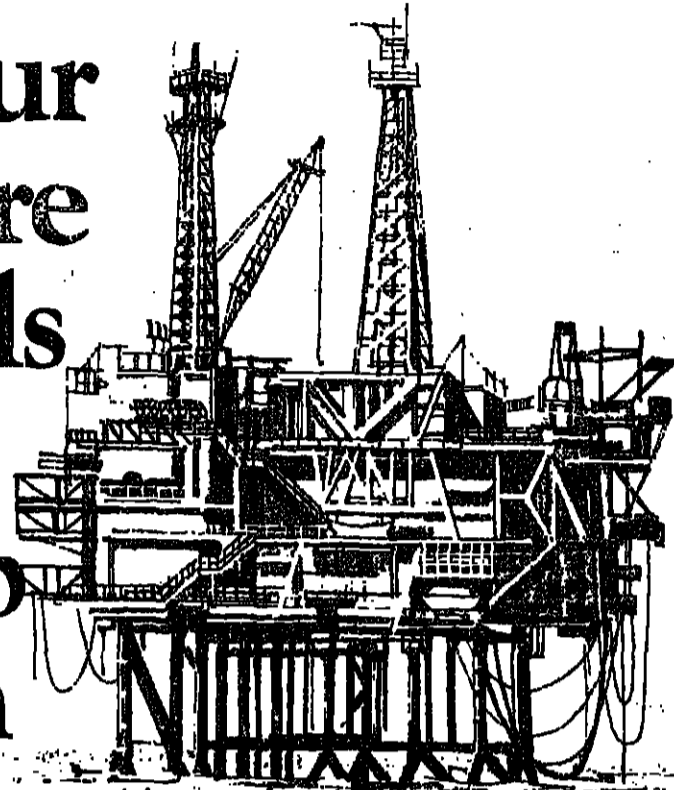
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ENERGY MANAGEMENT... this is a new growth area where our traditional expertise in designing and producing high reliability systems for use in harsh military environments is perfectly suited to the requirements of the North Sea Oil industry. An impressive range of equipment and real time systems has been devised... many of these systems have been built around a range of Fault Tolerant System modules. Several new monitoring and control systems are currently under development specifically in the field of Security Management.

To play a key part in these exciting growth plans we are very interested in talking to SOFTWARE SPECIALISTS and SOFTWARE ENGINEERS with a degree in an Engineering Subject, Mathematics or Physics and sound experience in real time computer systems.

Informal discussion... please contact Colin Roberts, Career Development Manager on 061-428 0771 during office hours and 061-428 0194 after 5 p.m. and at weekends, or write to Colin, quoting reference 329/44, at Ferranti Computer Systems Limited, Bird Hall Lane, Cheadle Heath, Stockport SK3 0XQ.

FERRANTI
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UNIX AND 'C'
Your passport to the U.S.A.

If you have a degree and at least six months' Unix and 'C' experience then our client, a top U.S. consultancy, would like to hear from you.

We are looking for programmers and systems programmers who wish to utilise and expand their skills in an environment at the forefront of Unix development. In return we offer permanent positions with a salary range of 35,000 to 45,000 dollars.

Live and work in New Jersey where you get the benefits of a picturesque non-urban location and yet still within a short distance of New York with all its exciting amenities.

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To apply you should be aged 25-40, be educated to a Degree/HNC level and have a proven track record in the marketing and selling of mini computer systems.

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INTERCOM DATA SYSTEMS were formed to provide a dedicated System House solution to the communication and Information Technology requirements of major companies, banks and Government organisations. With a comprehensive client list, an excellent reputation and a full range of products and services we are in the forefront of technology and now require key staff to match.

Software Engineers and Programmers £10,000-£14,000

Experienced people at all levels in VAX, VMS, MACRO, RSX11M, FORTRAN, REALTIME are urgently needed to work on a variety of projects including VIDEOTEX and NETWORKS. We require competent skilled staff and are ready to convince them to join us. We have several inhouse VAX 11/50s and there are opportunities for travel and user contact.

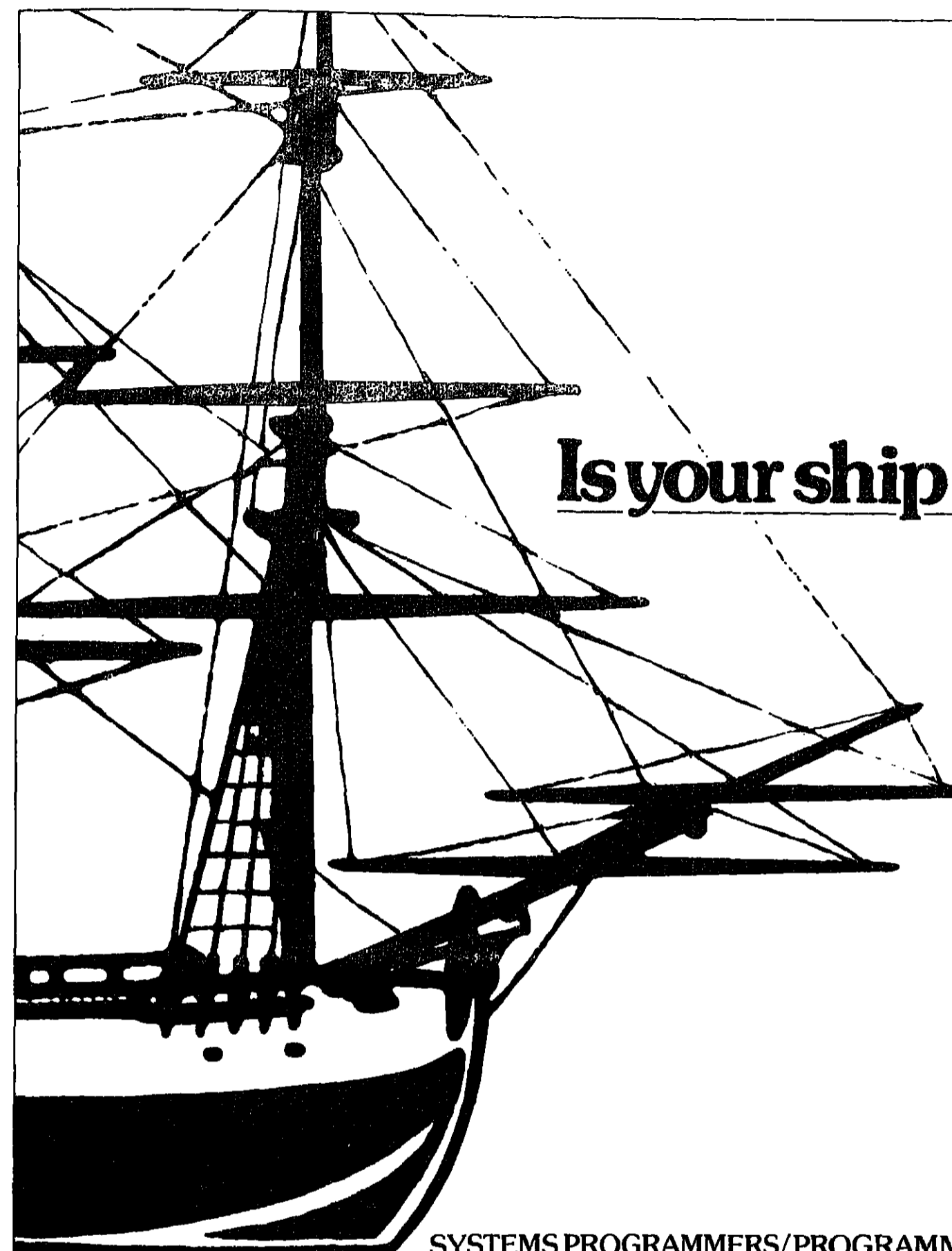
Hardware and Communications Support £7,000-£9,500

Acting under our Hardware Manager in the installation and testing of new HARDWARE and SOFTWARE PACKAGES both inhouse and in our clients' premises. This position may be of interest to ENGINEERS or people with an ELECTRONICS background with a desire to move closer to software development. Work is varied and TRAINING will be provided as necessary. This is a real opportunity for applicants with aptitude and some experience, preferably on DEC and/or COMMUNICATIONS equipment.

Our working environment is supportive with BRAND NEW PURPOSE BUILT offices in WOKING. Long term prospects are excellent and relative and staff will be rewarded financially with regular reviews and a priority for career advancement.

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FOR FURTHER INFORMATION contact our advising consultant, MARSHALL CLIGMAN at Targa Computer Recruitment or at home (Telephone EPPING 76085).



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Successful applicants will have a minimum of 3 years Assembler or PL/1 programming either in software or in applications with a high technical

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Programmers will need a minimum of eighteen months experience of PL/1 preferably in a large scale financial or commercial environment. **IBM Cobol** or **Fortran** Programmers with exceptional skills could be considered for retraining. Analysts and Designers will have at least 2 years experience and a technical background. The ability to liaise with users and some experience of project management will be beneficial.

Salaries will be dependent entirely on ability and will be supported by an excellent benefits package including mortgage subsidy and non-contributory pension (both available immediately). Relocation assistance will be available if appropriate. Excellent training

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DEC PDP & VAX (COMMERCIAL)

ANALYST PROGRAMMER BERKS. £9,000-£12,000
If you like lots of user contact and enjoy problem-solving in an international organisation, transferring to VAX, wants your BASIC and DEC experience for a position where you will be involved in various small and large projects and no two days are the same. Excellent career path and perks. **JH/CW**

6000 RSTS/E7 S. LONDON £9,500 + FREE HOLIDAYS
Are you presently involved in a monotonous maintenance routine but know BASIC + and RSTS/E inside out? Do you want to work on VAX, be involved in development and have free holidays? If you have the personality for user contact and are looking for a challenging and busy environment, my client needs you for a position where initiative is rewarded with excellent career prospects and free holidays, etc. **JH/CW**

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London company has a contract for a MIC or MUMPS Programmer to work with VAX, other MINIS and MICROS in an on-line environment. You'll be involved in the development of commercial systems in an installation offering good benefits including relocation. **JH/CW**

ICL

ICL DME/VME ANALYST/PROGS TO c.£11,000 - PERKS
Two positions vac. in South London site currently running under CME. Requirements are four years' ICL background, ideally with a knowledge of VME and on-line systems with tangible evidence of Analysis from design stage. **MB/CW**

ICL ME29 ANALYST/PROGRAMMERS TO c.£11,000 - PERKS
Two London installations require experienced ME29 staff with knowledge of on-line systems using either TPS or TMS. Some exposure to Analysis work is essential - supervisory experience required for one position. **MB/CW**

ICL VME/IB CONSULTANTS TO c.£18,000
Major software house require excellent VME/IB staff with IBM/DEC experience. Applicants must have tangible analysis and current COBOL programming skills. Salaries excellent - locations either central or West London. **MB/CW**

IBM

IBM SYSTEMS ANALYSTS TO £16,000 + BENEFITS
A number of our clients in the centre of London are looking for experienced IBM DOS/MVS Systems Analysts. Applicants should have proven experience of designing on-line systems, preferably in a banking/financial environment. A previous financial programming background using COBOL would be highly desirable. **RC/CW**

IMS SYSTEMS PROGRAMMERS TO £17,000
Candidates will have at least three years' Systems Programming experience on either DOS or MVS systems, at least one of which will have been working in an IMS systems environment. You will be responsible for handling all queries relative to the Database Technical Support Group and therefore, must have seen a major project from feasibility through to implementation. **RC/CW**

IBM SYSTEMS 34 and 38 £9,000-£12,000 + BENEFITS
If you are an ambitious Programmer or Analyst Programmer with 18 months' to three years' Systems 34 or 38 experience using RPGII or RPGIII in a financial environment, you will be of interest to a couple of our major clients in the centre of London. Both companies offer further training, where necessary and a complete benefits package. **MB/CW**

TRAIN IN CICS & DL1 or IMS DB/DC TO £10,500
A number of our clients based in London and the Home Counties are actively looking for Programmers and Analyst Programmers, with between 18 months' and four years' experience on IBM Systems wishing to learn on-line and database techniques. If you have a good applications background we would like to hear from you now. **MB/CW**

OTHERS

MINI & MICRO PROGRAMMERS & ANALYST/PROGRAMMERS ALL AREAS £7,000-£12,000
We are currently seeking to recruit Programmers and Analyst Programmers with at least one year's experience of any kind of mini or micro COBOL, FORTRAN or BASIC, for a large variety of clients in all areas. Environment: include manufacturing, commercial, financial and software houses. Salaries dependent upon experience. **S.E. ENGLAND**

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We are being retained by several clients to recruit former professional staff at all levels for vacancies in London and Home Counties. Positions available range from Programmer (two years' experience) to Senior Systems Analyst and Project leaders. Professions open to applicants with Burroughs' Link experience. Environments are mostly commercial and software houses. Salaries negotiable by experience. **MB/CW**

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CITY £8,000-£10,000 - BUPA
My client requires two Programmers with two years' MACROS/II and 6602 ASSEMBLER. Equipment on DEC PDPs, and runs under ITSXIM. A block structured language is also necessary. C, PASCAL or ALGOL. FORTRAN is a plus. **PZ/CW**

HANTS £9,000-£9,500
A rather rural position. A Systems Programmer is required who is fluent in FORTRAN, ASSEMBLER to support PRIMOS systems. They might train in applications programming who has been involved technically in PRIMOS systems. **PZ/CW**

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My client requires six first-class DEC Mainframe and LSI mini Field Service Engineers to work both in-house and service customers. Mini experience may be on Datapoint or Hewlett-Packard. You will be very experienced and you may negotiate your salary who is entirely open. The company has locations in London and the South. You will receive a company car. **PZ/CW**

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We are seeking a contract requirement in London/Leath East for Programmers and Analyst Programmers to work on the development of various commercial systems. **MB/CW**

IMS 1100 DPMX PHOTOS AND DESIGNS An Opportunity to Train
Ideally these London based contract staff for a number of experienced IBM/DEC Programmers and related related to a project for a client. IBM/DEC/IBM/IBM in addition, our client will train and develop with suitable IBM background willing to learn and a successful business environment. **MB/CW**

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ANALYST/PROGS
DEC/FINANCIAL

to £13,000

A well known City financial concern requires an Analyst to be involved in the development, implementation and marketing of their on-line real-time systems. They seek a young Analyst with around two years' financial applications exposure, accounting systems being of special interest to our client. This position affords the opportunity to be involved at an early stage of the development and make a heavy impact on this and future projects.

ALL LEVELS
ICL COBOL

to £14,000

A growing Essex based company, heavily committed to major developments of financial systems on ICL 2900/VME systems, is seeking experienced ICL people at all levels. Progs. and Analyst/Progs. should have 18 months or more COBOL experience, the latter with some formal analysis. Analysts and above will have at least two years' systems exposure. These positions attract a generous company benefits package including an excellent profit share scheme.

ANALYST/PROGS
DEC/BASIC

£NEG

Our client, an expanding software house based in Surrey has requirements for Analyst/Programmers for development and implementation of commercial systems in a VAX and PDP environment. They seek self motivated and enthusiastic people with at least two years' BASIC gained on DEC equipment. They offer a rewarding career with excellent opportunities for advancement within a client oriented situation.

ANALYST/PROGS
HP COBOL/BASIC

to £10,500

Rapidly expanding software house based in C. London seek Analyst/Programmers to join their teams. A minimum of 12 months COBOL or BASIC gained in an HP 3000 or HP 250 environment is required. This is a good opportunity to work on a variety of projects and offers successful candidates very good career prospects and perks which include a company car in the future.

ANALYSTS
C. LONDON

to £13,500

We have been retained by two well known London based companies to recruit Analysts with varying levels of experience. A sound DP background is required with preference given to candidates with general accounting applications exposure or IBM systems experience. Both positions involve extensive working on new projects and offer good career prospects. Perks include large company benefits and discount on company products.

PROGRAMMERS
COBOL/FINANCE

c £10,000

Two C. London based financial concerns require ambitious Programmers to join their teams. Applicants should have a minimum of 18 months COBOL gained in a commercial environment and should have the potential to move rapidly into a junior management position. Excellent perks include full banking benefits, annual bonus and some overseas travel.

ANALYST/PROG
RPGII

£11,500

An Analyst/Prog. with at least two years' RPGII in a SYS 34 environment is required for a manufacturing site based in Berks. User skills are of the utmost importance since a great deal of time will be spent with first time users off site. Although based in Berks, the successful candidate must be prepared for some UK and overseas travel. Standard large company benefits apply to include an excellent relocation package.

PROGRAMMERS
HONEYWELL L6

to £11,500

We currently have requirements for Programmers at two C. London Honeywell installations. Candidates should have 18 months' COBOL or SCREENWRITE gained on Honeywell hardware. Both clients are currently expanding their DP teams to work on a variety of new developments. Excellent career prospects are offered together with a wide range of benefits which include travel allowance, sports and social club and a subsidised mortgage after qualifying period.

PROGRAMMER
RPGII

£7,000

London based site require a Programmer with one year's commercial RPGII. The hardware is WANG but any hardware will be considered. Applicants should have standard accounting knowledge i.e. General Ledger, Purchase Ledger etc. and any manufacturing systems exposure would be of special interest. This site will offer the successful candidate rapid progression into analysis.

404 4821

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Brussels Office: Rue Gottlieb Gurnard, 24 Uccle 1180 Brussels Tel. 010 322 377 4193.

your appointments register

Programmers

NCR/IBM/COBOL to £15K
Insurance Banking London H. Counties N. Eng.

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Commercial H. Counties Midlands Manchester

PASCAL UCS/DP to £10K
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Games Writers & Designers London/Slough/Liverpool

IBM/MVS to £15K
IMS/CICS/DL1/1 Midx

SYSTEMS 34/36/38/RPG2 to £12K
Insurance/Commercial London/Home Counties

IBM 4341 VM/SP or CICS/VS to £13K
Systems exp. West of London

BASIC to £15K
Mini/Micro Computers London

IBM/UNIVAC/COBOL to £12K
On-line/Database Surrey

IBM VS-FORTRAN/VSAM/ISPF to £11K
MVS/TSO Sheffield

Analyst/Progs

DEC PDP 11 RSTS/E BASIC to £12K
Multi-user Realtime comm. applications Midx

IBM 34/38/4341 to £15K
London/Home Counties/North

ICL 1500/ME29/2903 to £12½K
COBOL Essex/Herts

IMAGE PROCESSING C/UNIX to £12K
Scientific Applications

Hardware/Support

SOFTWARE TECHNICAL AUTHORS £NEG
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CUSTOMER SUPPORT £10K
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VAX 780/750 UK & Europe

APPLICATIONS ENGINEERS to £14K
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PROJECT ENGINEER to £11K
Systems/DEC Beds/Manchester

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IBM 370/125 4341 to £11K
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IBM/BURROUGHS to £15K
Commercial/Accountancy London/Surrey/Manchester

IBM/PL1/DL1 to £11K
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ICL/ME29 to £16K
Commercial Design Herts

IBM SYSTEM 34/38 MAAPICS to £13K
Sussex

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CORAL/PASCAL/MASCOT/C to £13K
Communications Glos/H. Counties/Midlands/Blackburn

ASSEMBLER/PLM to £12K
Northern England

MILITARY SYSTEMS/RADAR to £14K
Coral Mascot Hants/Surrey/Essex/S. West

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- ★ Familiarity with POWER, ACP/VTAM, CICS, NCCF, NPDA Software
- ★ Experience of Network Control preferably with VM

Successful applicants will be expected to work on a shift rota and will receive an excellent salary package including bonuses, six weeks' holiday and relocation. Interviews will be held in London shortly.

Contact Marilyn Davidson or David Thompson
on 01-836 6775

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TANDEM COBOL PROGRAMMERS
VAX 11/780 FORTRAN ANAL/PROGS (IELEC ENG BIAS)
DATASAB COBOL PROGRAMMER (URGENT)
INTEL CORAL 66 ANAL/PROGS (MILITARY/AVIONICS)
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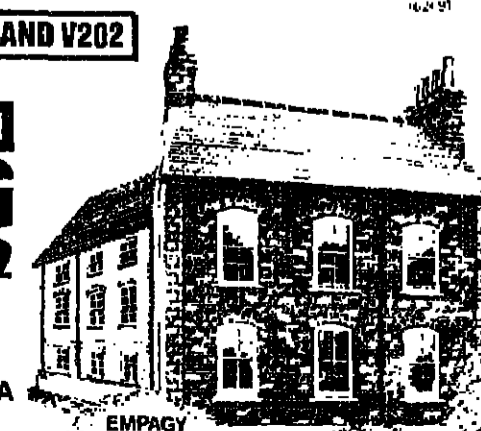
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DEC

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CORAL 66 PROGRAMMER/ANALYSTS
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DEC VAX VMS COBOL PROGRAMMERS - JANUARY
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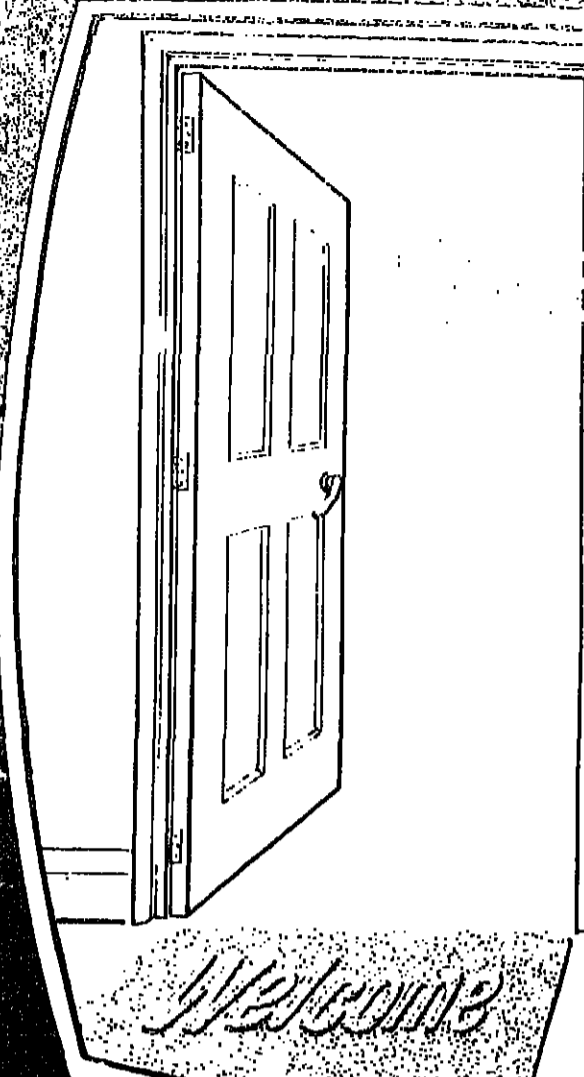
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Application forms and job descriptions from the Personnel Division, Room 1, Brent Town Hall Annex, Forty Lane, Wembley, Middlesex HA9 8BR, returnable November 16th, 1983, telephone 01-903 0371 (24-hour Answerphone service). Reference number F380 must be quoted.

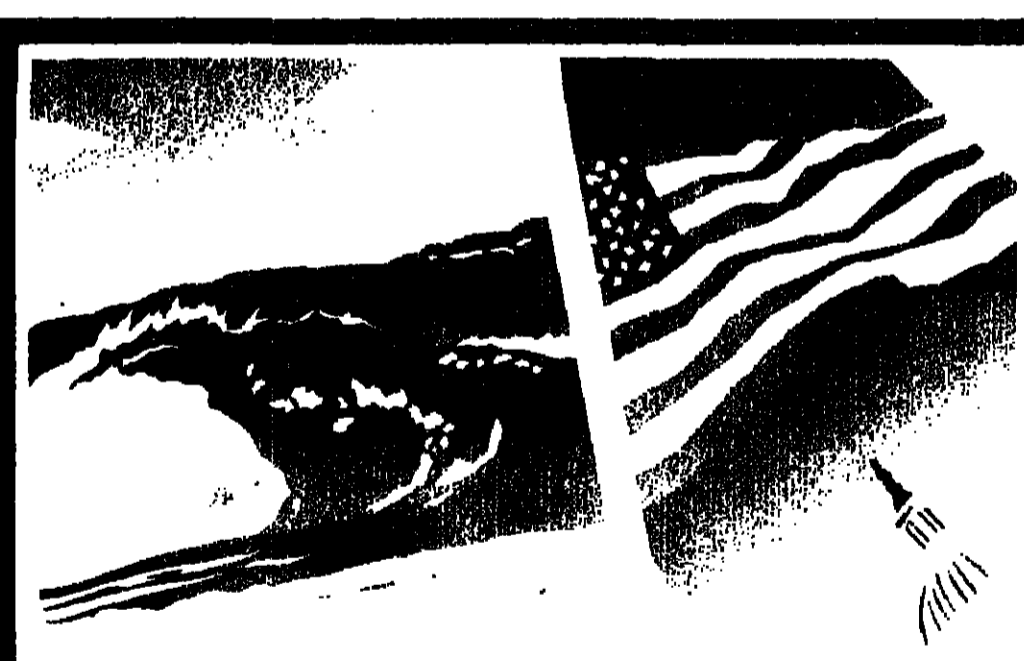
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A leading computer manufacturer currently developing Local Area Networks seeks a Project Leader to lead a small team. Ideally candidates will have communications design experience in PASCAL or, if possible C for 68000/UNIX products. REF: CW 43/1

COMMUNICATIONS SPECIALISTS

LONDON to £17,000
One of Britain's leading Information Systems contractors have a number of openings for Consultants with a minimum of 8 years experience, primarily in an Information Processing environment. Typically experience should include knowledge of Telecommunications Industry Systems Design, Marketing Activities x 25,150 Standards and Office Automation. REF: CW 43/2

ACCOUNT MANAGER

BERKSHIRE to £18,000
The Computer + Communications sectors of a leading software company require a Manager to sell/market the company's services and to Manage their financial/Contractual side of appropriate projects. Technically candidates should have experience of IBM/ICL communications, X25 and Project Management plus selling LANS marketing experience are added requirements. REF: CW 43/3

S. IRELAND

PASCAL/C to £14,000
European division of a Major American Corporation based in the south of Ireland is developing microprocessor-based office automation systems based M68000 under UNIX and C. Candidates should have worked with PASCAL or C with exposure to Assembler, desirable operating experience should include one of VMS, RSX, TOPS-20, UNIX, CP/M or MS/DOS. REF: CW 43/4

X 25/LANS

HERTS/BEDS to £9,000-£13,500
A Computer manufacturer offers a choice of location near M1 motorway to experienced programmers. The successful candidate will work on the design and implementation of communications software projects. A graduate with five years experience some of which should have been in communications (preferably X25 or LANS based) should apply. REF: CW 43/5

BANKING NETWORKS

LONDON to £10,500 + BENEFITS
Major international bank developing Local Areas Networks using UNIX and C require young software programmers to assist this development. Candidates should have a degree plus experience of a black-based language ie: PASCAL or preferably C. Short-term overseas travel is likely for the successful candidates. REF: CW 43/6

HOLLAND

PLM to D.SL 80,000 + CAR
A Dutch-based consultancy require Programmer/Designers to develop interface software for a 16-bit machine and an Intel 8086. Applications include emulating IBM Protocols, File Handling and Business Graphics etc. Candidates should have some experience of PLM, PL/1, Assembler and 780 Assembler. REF: CW 43/7

C/UNIX

SURREY up to £15,000
A relatively new communications company set up to develop Local Area Networks Software Products require young programmers with communications experience. Candidates requiring experience of C UNIX will get an early opportunity to develop these skills. Graduates with real-time experience using PASCAL or similar should apply. REF: CW 43/8

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NAVIGATION SYSTEMS

SURREY to £16,000
One of Britain's leading information systems contractors is seeking a consultant to work on Navigational Systems in marine and aircraft systems. Ideally the successful candidate will have a numerate degree plus five years' experience in the design and assessment of digital systems for inertial navigation, integrated navigation, radio and satellite. REF: CW 43/10

IMAGE PROCESSING

NORTH LONDON £9,000-£10,000
A highly respected manufacturer of image processing systems requires additional Software Engineers to work on digital processing systems. You should have had at least one year postgraduate industrial experience and have programmed in Assembler during this period. Creative flair, committed interest and the willingness to succeed will result in extensive opportunities for career advancement. REF: CW 43/11

PROCESS CONTROL

LONDON £12,000-£17,000
The Industrial Group of a leading Software Company seek Consultants and Designers to development process control software for the food, drink and drug industries. Candidates dependent on level of experience will be offered a number of positions such as supervising projects, developing software on large projects, assisting teams in technical support role and producing specifications. REF: CW 43/12

SIGNAL PROCESSING/RADAR

MIDDLESEX R & D ENGINEERS
A major defence contractor requires Research & Development Engineers to design modern Military Radar and Electronic Warfare systems, in particular signal processing systems. Candidates should have 2 to 3 years DEC and MACRO-11 experience on real time military systems. REF: CW 43/13

REAL TIME FORTRAN

MIDDLESEX to £11,000
Our client is currently developing an emergencies services system based on Data General equipment. Candidates should have Fortran experience on real time applications, ideally using DG equipment and Command & Control systems. REF: CW 43/14

CORAL/MASCOT

LONDON Up To £15,000
A top consultancy, commanding large contracts with the MoD require Professional Programmers and Software Designers to work on Real Time Defence Systems. Candidates should have a degree plus experience of CORAL and preferably MASCOT. Experience of CONTEXT and VAX machines would be helpful. Successful candidates' careers will benefit enormously by being associated with one of the top names in the industry. Ref: CW 43/15
The above appointments represent a selection of the vacancies that we are currently seeking people on behalf of our clients in the Hi-Tech areas. All these appointments involve permanent positions. In the first instance please send us a copy of your CV. (Alternatively telephone for an application form) so we may discuss your application in confidence on behalf of yourself and our clients.

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Tangent means success in the software world. Tangent is a successful and growing International Software House. We have built an enviable reputation since our formation in 1974 and our services are in high demand by many major commercial organisations worldwide. In the UK we have recently opened new offices in London and Brentwood, Essex. In America, where we have been established for some years, we have recently opened branch offices in Texas and Florida.

Against this background of success, we now wish to increase our strength both in the technical and in the sales areas. We are looking to recruit experienced computer professionals who are seeking a challenging future. There are many fine opportunities now available with Tangent for career progression.

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FOR MORE SUCCESS IN YOUR SOFTWARE CAREER - JOIN OUR TANGENT TEAM - UK AND OVERSEAS.

PROJECT DEVELOPMENT

Our Project Group undertakes fixed price projects on our own in-house hardware IBM System 34 and IBM System 38 and Hewlett Packard 3000.

Project Leader & Programmers - HP3000

We wish to recruit a Project Leader and several experienced HP3000 COBOL Programmers to form a new project team who will be starting a major new project in the immediate future. Experience with MM3000 is essential, a knowledge of IMAGE, QUERY and VIEW is desirable.

SOFTWARE PRODUCTS

Our growing Products Division markets and supports the Global ACCOUNTING IV range of accounting products for IBM mainframe computers and the Global CONTROL/38 range of account products for the IBM System 38 and, with the impending arrival of our HP3000, we anticipate offering a range of products to complement this hardware. Current expansion requires that we recruit the following people:

Analyst Programmers - HP3000 - Insurance

We are seeking people with knowledge essentially of IMAGE MPE. Experience of SQL would be advantageous. Initial assignment would be in NEW YORK and subsequently in the UK.

Analyst Programmers - IBM Financial Packages

Our product range covers 34, 36, 38 mainframe. We are prepared to recruit and will consider IBM mainframe experience with CICS or IBM System 38. These positions will entail travel in the UK and probably to the USA and Europe.

PROFESSIONAL SERVICES

The Division provides skilled consulting Systems and Programming staff to work on client locations in the UK, Europe and the M. East. Our consultants are of a mixed discipline, combining both permanent and contract staff. We are now wishing to expand our permanent technical staff and to hire the following people:

Programmer - Analyst HP3000

We are seeking a experienced HP3000 programmer with a good knowledge of either RAMP or IMACS to work on-site for a major client based in London.

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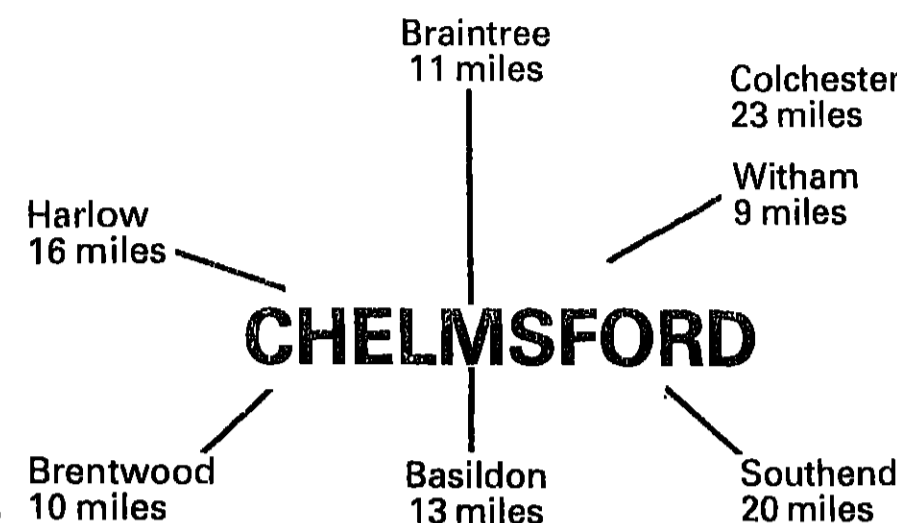
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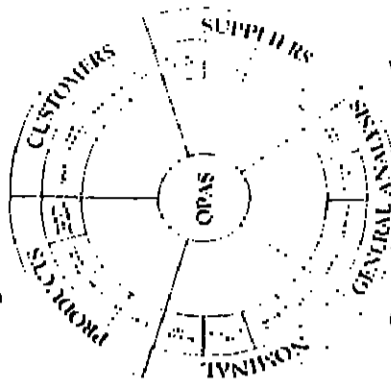
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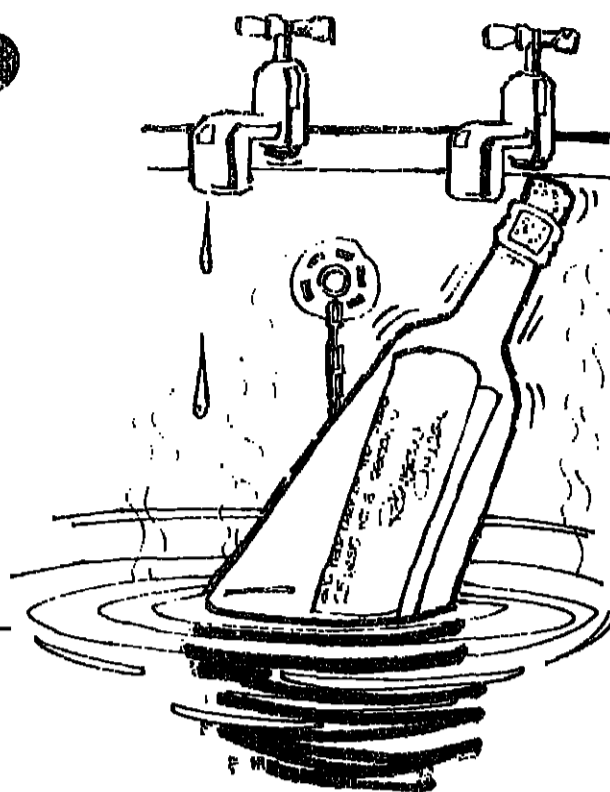
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UNIX Sales Support

London to £15K + car
This is an unusual opportunity for a technical person to achieve an income commensurate with a salesman. Our client is offering commission incentives to UNIX experts who will provide the sales team with the necessary support when clients' needs require detailed knowledge of the internals of UNIX. The company is large, international and successful.

OEM S'ware Support

Bucks. to £17,000 + car
We wish to hear from young (25 to 30), high-flyers who have the experience and flair to provide support to a range of clients. You will need to talk comms. protocols, be capable of reading a COBOL or assembler listing and be prepared to tackle anything. This company's products are leading the way in many international markets.

Principal IBM Consultants

London to £20,000
We would like to hear from candidates who have extensive technical experience in a range of IBM systems software: eg. MVS, VM/CMS, VSE, IMS, DL/I, SNA, CICS, etc. Previous consultancy and project management experience desirable. You must be highly presentable, commercially aware and astute with well developed personal communications skills.

Proj. Leader Compiler Dev.

Herts. c£14,000
Our client, a major international company, with a successful track record in Distributed Data Processing systems, wishes to appoint a new Project Leader of compiler development. Ideally previous design experience on a COBOL compiler implementation project but others accepted as relevant. Leadership skills and up-to-date awareness of structured design and programming methods desirable.

Analyst Programmers

London to £12K + bonus
Interesting and varied projects in store for you with this client. INFO (relational DBMS) used for turnkey applications for a range of customers. Analysis skills important for pre-sales work. Ideally candidates will be commercial programmers used to working to deadlines. PRIME Fortran experience of significant interest. U.S.A. based company. Excellent benefits and prospects.

S/W Team Leaders

S. Herts. to £14,000
A promotional opportunity for programmers with real-time systems experience. Ideally candidates will have worked in an assembler and a block structured language and should be able to demonstrate an awareness of project control procedures. Any knowledge of DEC VAX and Intel 8080/8088 equipment would be useful as would an awareness of micro electronics.

Software Engineer

W. London c£11,000
Join the market leader in theatre and T.V. lighting technology. To be successful you will need previous experience at assembler level on real time systems. Development is under UNIX so 'C' or PASCAL will be very useful as would a knowledge of electronics. PDP/11, 68000 or 6809 processor experience attractive. Degree/HNC preferred. Reloc. assistance, paid overtime.

Comms. Team Leader

Surrey c£12,000
An experienced comms. software person is required to lead a small team of programmers in the design and development of comms. products on an established range of office systems. Areas of expertise required are: 2780/3780/HASP, X25 Ethernet etc., etc. Ideally you will have previous similar design experience, leadership qualities and a background with a manufacturer or software house.

DBMS for Micros

Surrey c£10,000
Ideally you would like you to have had at least 1 years experience with 'C', however, PASCAL, BCPL or similar would be acceptable. You will have the opportunity of working with MS-DOS (PC-DOS) on future developments of this successful micro based DBMS product. Previous systems software experience in file access, data management, data structure, etc. would be very useful.

Programming Enthusiasts

W. Herts. to £9,500
You will identify with this client if you are one of the many programmers bitten by the computing bug. Ideally you will have 1+ years experience in Assembler, or 3 years high level language programming. Preferred systems are DEC, PDP and/or Z80 micros. PASCAL, BASIC or PL/I languages useful. A dynamic environment. Excellent benefits include 5 weeks holiday.

S/W Quality Assurance

Herts. c£14,000
This position calls for a specialist in software quality assurance and control in a development environment. Candidates will have a relevant background gained with a systems supplier. The successful candidate will be appointed Project Leader of the Q.A. function and will, therefore, require the skills to lead and motivate a team in this area.

Marketing Support

Herts. to £10K + car
Our client is a world leader in the development of systems software for computer manufacturers and users. This new vacancy is to provide technical and marketing support to Vendors, Distributors and the Sales force. 1 to 3 years COBOL programming, knowledge of FORTRAN and BASIC and a general technical background are the essential requirements for this exciting opportunity.

IBM Systems Programmers

Herts./Bucks. £12K-£14K
We have several clients covering systems houses, manufacturers and large users all of whom require experienced IBM systems specialists. If your experience includes some of the following, please contact us: MVS, VSAM, JES2, MJE, IDMS, TSO, SP, ACP2. Languages assembler or PL/I. Whatever your requirements we are sure we can be of assistance. Also Saudi and Swiss assignments.

Sales Support

W. Herts. c£12K + car
Candidates will require a technical background with a knowledge of hardware and software. They will assist the Account Manager with presentation proposals and client liaison. The business is computer control systems for the checkout of satellites prior to their launch. We will be looking for well presented, literate people with good personal communications skills.

Software Support

Bucks./M'chester £16K + car
Can you demonstrate previous experience in use of T.P. systems, show an in-depth awareness of operating system software, or discuss knowledgeably the aspects of communications software in distributed processing? If you measure up to this tough specification and enjoy the challenge of pre and post sales support our client will almost certainly wish to meet you.

Open letter to experienced computing staff seeking new opportunities

Write or telephone (02403) 28383 during office hours -
We are always ready to discuss these and many other interesting positions.
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Terry Harvey - Great Missenden (02406) 4705
Brian Coates - Chesham (0494) 785722
John Barker - Camberley (0276) 61297

Our free service to you is advice and assistance in identifying the most suitable new position for the development of your career. Our consultants have held a variety of responsible positions in the computer industry. With this experience and their knowledge of the job market they are available to help you. The advertised vacancies are only a representative sample of the many that are regularly registered with us by our clients. Write or call us anytime to discuss your ideas.

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HR

MANAGEMENT & EXECUTIVE SELECTION

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Sales Professionals

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UNIX is undoubtedly emerging as one of the most versatile operating systems in the world for mainframe, mini and microcomputers. Our client is one of the most reputable and professional computer system and product companies, with a turnover in excess of £40

million. As such they have established an enviable lead in the supply of UNIX based systems and products. They have retained us to identify and select the following key individuals.

SALES EXECUTIVES END USER SALES

Aged between 25-35, you should have at least two years' successful sales experience of systems or services to major end-users, either in vertical or geographically based markets. Experience of DEC based systems and a good software background will be considered an advantage. Moreover, flair, enthusiasm, professionalism and commitment are the primary personal qualities.

SALES EXECUTIVES DEALER SALES

You should have experience of selling and motivating dealers to sell microcomputers or microcomputer software. The products are geared for use by the professional end-user and therefore a sound technical background coupled with a successful track record in sales will be the selection criteria. All these positions are based in London and require a high degree of mobility. The company offers an excellent working environment, substantial remuneration with a no ceiling commission earnings plan, free BUPA, life assurance and voluntary pension + company car.

For further information please contact Tony McGrath on 01-637 9611
Suite 201/8 Albany House 324 Regent Street London W1R 5AA 01-637 9611

MANAGEMENT & EXECUTIVE SELECTION

PROGRAMMER

CHANDLER HARGREAVES WHITTALL & CO LTD.

A medium sized Lloyd's and International insurance broker is seeking a Programmer, to join a small D.P. team involved in the development and support of accounting, insurance, and office automation applications in London and the country.

These applications are based on WANG VS Hardware and PC networks and are developed in COBOL. A minimum of two years' COBOL programming experience is sought and preference will be given to candidates able to demonstrate knowledge of accounting and insurance.

A substantial degree of user contact is involved and the successful applicant must be prepared for occasional travel in the UK.

Candidates having relevant experience are requested to write or telephone giving details of career to date to:

Mr B. D. Smith
Personnel Director
CHANDLER HARGREAVES WHITTALL & CO. LTD.
3/7 Marshalsea Road, London SE1 1EF
Tel: 01-407 8000 Ext. 292

(0338)

BRITISH AIRWAYS HELICOPTERS LTD. FLIGHT SIMULATOR ENGINEER OFFICER BV234

British Airways Helicopters Ltd are looking to recruit a team leader for their simulator maintenance section at Aberdeen. Duties will include the maintenance and overhaul of S81 and BV234 simulators. In detail the successful applicant will be responsible for the co-ordination of engineering tasks on the BV234 simulator implementing aircraft modifications, controlling software modifications and updates, progressing outstanding defects and ensuring that preventive maintenance tasks are completed.

Applicants must hold an HNC in electronic engineering and have previous simulator experience, preferably gained on SEL 3277 equipment. An in depth knowledge of real time simulation software and allied hardware equipment would be desirable. Salary will be up to £10,150 and additional benefits will include favourable concessional air travel opportunities, contributory pension scheme and subsidised staff restaurant.

For an application form please contact: Mrs Becky Penfold, British Airways Helicopters Ltd., Gatwick Airport South, Gatwick, Sussex RH6 0PB.

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Our Software Engineering Group solve the post development problems that can occur in our complex systems and modify the software accordingly. The Programmers in this team need to be quick thinking, energetic, enthusiastic and enjoy the challenge of technical software problem solving. Vacancies currently exist for a number of additional Programmers to join this fast moving department.

Applicants will hold a relevant degree and have at least one year's technical programming experience. The ability to understand the responsibilities of a support environment is essential and a familiarity with VAX/VMS and Fortran Programming an advantage.

Racal-Redac Limited offer excellent commencing salary and employment conditions and an exciting, demanding job in which career progression is based on personal ability.

Please apply in writing with details of age, qualifications and experience to:

Brian Ashcroft, Senior Personnel Officer,
Racal-Redac Limited, Newtown, Tewkesbury, Glos.
Tel: (0684) 294161.

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Our profile calls for an energetic, 'Working Manager' with a 'shirt sleeves' approach to computer systems implementation. The role is one of extremes, where on the one hand you will be the sole 'centre of competence' in systems and programming whilst on the other provide the Management direction for future developments.

A strong association with Data General minicomputers is essential combined with a working familiarity of AOS COBOL and DG facilities, since it is upon MV Series 'Superminis' that our computer development programme is founded.

An extremely attractive package is offered, including a five figure negotiable salary, non-contributory pension, free life assurance, free B.U.P.A. and relocation package if applicable.

For a private and confidential discussion on this opportunity contact **Nick Reid** on **01-935 0671** during office hours or **01-644 1973** evenings or weekends.

Alternatively send your C.V. to him at the London office.

Surrey

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Manchester M3 2ER
061-833 0427

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Avenue Louise 327,
Boite 4, 1050 Bruxelles
010 322-640 7151/71

HOLLAND
Willemsparkweg 92,
1071 H M Amsterdam
010 3120-780947

ACP/PARS/TPF SAN FRANCISCO

We require ACP Consultants to work for a major financial institution based in San Francisco.

Our client is undertaking a brand new development project using TPF 11 and would like to hear from people interested either on a contract or permanent basis. Interviews with the client to be held in the U.K. in November.

For more information telephone **01-734 0152** (working hours) or **01-800 1811** between 8pm to 10pm evenings.

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PROGRAMMERS to SENIOR ANALYST/ PROGRAMMERS with IBM COBOL

"Where next?" We have clients in Cambs., Bucks., Hants., Middlesex, Surrey and Belgium.

They have vacancies now for Programmers (to £9½K), Programmer/Analysts (to £10K) and Analyst/Programmers (to £11K) in the UK, and in Belgium Analyst/Programmer (to £16K), senior Analyst/Programmer (to £20K).

As well as using COBOL on their IBM mainframes, most sites currently use CICS, other software includes IDMS, UFO, ROSCOE, ETSS, etc., with either MVS or DOS/VSE.

In most cases assistance is given with relocation, a variety of other benefits is also offered.

Ring Jeff Boston on 01-930 4041 now or send your CV to him at:

(5472)

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Analyst Programmers

LONDON WC1 up to £12,380

Computers are playing an increasingly important role in our wide ranging activities at British Gas. In fact, our network and installed capacity ranks us amongst the most advanced and sophisticated users in Europe. We have an immediate need for an Analyst Programmer, at our Holborn Headquarters in London WC1.

THE WORK

- ☐ Fortran and Cobol
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- ☐ Univac 1100 installations
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- ☐ Convenient Central London location.

THE PEOPLE

- ☐ A minimum of 18 months programming experience using at least one of the above languages.
- ☐ Analysis ability
- ☐ Degree or equivalent.

THE REWARDS

- ☐ Salary in the range £10,924 - £12,380
- ☐ Excellent benefits package
- ☐ Relocation assistance, where appropriate
- ☐ Involvement in an expanding function within the energy industry.

ACTION

For further details ring Dave Taylor on 01-831 6272 ext 4245, or write, enclosing full details of experience, qualifications and age, quoting ref. PS/716901/705/CW, to: Senior Personnel Officer (Engineering), British Gas, 59 Bryanston Street, London W1A 2AZ.

BRITISH GAS

0390

Royal Military College of Science, Shrivenham Lecturer/Senior Lecturer Computing Science

This is an opportunity for a well-qualified and experienced systems specialist to join the Computing Science Branch of the College. The work will involve teaching at undergraduate and postgraduate levels, principally in the HSE course in the Design of Information Systems, leading to degree courses such as Real Time Systems Design and Microprocessors will also be required.

You will be expected to carry out research and development in appropriate fields, developing external contacts. As well as carrying out normal academic duties there will be opportunities to read for a higher degree if appropriate. Computers currently in use include two DEC VAX 11/780s, a VAX 11/750, PDP-11HS and Perkin Elmer 3200 on an interactive network. Languages taught and used include Pascal, Fortran, Coral-66, and BASIC.

Candidates must have a first degree in a relevant subject and a higher degree would be preferred. A minimum of four years computer science experience is required. Teaching experience would be an advantage.

Appointment will be as Lecturer (C680-7765) or Senior Lecturer (C870-721, 475) according to qualifications and experience. Starting salary may be above the minimum at each level. Promotion prospects.

For further details and an application form (to be returned by 25 November 1981) write to Civil Service Commission, Alencon Link, Basingstoke, Hants, RG21 1JB or telephone Basingstoke (0256) 68551 (answering service operates outside office hours). Please quote ref: 5(C)908.

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Background in finance preferred to work with small team. User liaison skills essential.

IBM ASSEMBLER PROGRAMMER

Minimum of 2 years' experience in an IBM DOS/VSE environment.

COBOL & CICS COBOL PROGRAMMERS

People with Retail experience would be preferred. Relocation assistance is available.

PROGRAMMERS/DESIGNERS

PASCAL/ASSEMBLER experience is required.

ANALYST/PROGRAMMERS

ICL COBOL people are needed with some of DME/TPS/VME/IDMS.

ANALYST/PROGRAMMERS

HPE 3000 experience is required.

SENIOR PROGRAMMERS

ICL 2900 site using TP/IDMS/VME

PROJECT MANAGERS DESIGNERS

TEAM LEADERS PROGRAMMERS

To work on a wide range of relational databases for design and development work in a specialist team. Experience in at least one of the following areas - COBOL/PASCAL/CODASYL/VME/DATA DICTIONARY.

MARKETING CONSULTANTS

People with a systems background, with experience of promoting project services to Defence/Central Government.

IBM TECHNICAL SUPPORT

Person with solid support background in MVS, TSO environment. Good JCL needed.

JUNIOR PROGRAMMERS

1 year's experience of either IBM Assembler or COBOL.

IBM/ICL COBOL PROGRAMMERS

People with 2 years' experience of COBOL (any system).

SENIOR SYSTEMS PROGRAMMER

Person with 4-5 years' experience in DOS/VSE, CICS, VASM environment.

VAX ANALYST/PROGRAMMER

3-4 years' experience in COBOL, DBMS, SMS, TDMS environment.

TI PROGRAMMER

18 months TI 990 experience using COBOL.

IBM RPG PROGRAMMER

7 years' RPG/II for MAAPICS site. Moving expenses for right applicant.

IBM ANALYST

3 years' experience for large MPS, COBOL installation. Excellent benefits.

SYSTEMS ENGINEERS

People with Assembler experience on MICROS using Real Time systems.

BURROUGHS SENIOR PROGRAMMER

3 years' COBOL experience in Burroughs equipment for B1000 site.

IBM COBOL PROGRAMMER

18 months experience on IBM equipment preferably 4341 using DOS/VSE.

IBM ANALYST

Dual IBM mainframe site using DOS/VSE. Good benefits including flexitime.

SENIOR PROGRAMMER

Looking for a team leader to run the section. Must have DL/1, CICS and either PL/1 or COBOL.

IBM CHIEF PROGRAMMER

Person with strong technical background with team leader experience.

SYSTEMS & PROGRAMMING MANAGER

A self-motivated person to be the guiding force in the Department. Prepared to tackle all aspects of team management from training to trouble shooting. IBM CICS, COBOL Site.

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To head a team of 8-10 people up to Senior Analyst level. Man management & Technical skills are essential.

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REAL-TIME
VAX, VMS, FORTRAN, PASCAL, MACRO 32 are the areas that are of interest to a major force within the "LEASING EDGE" consultancies. If you are interested in "real" REAL-TIME experience that is up to the minute and will not only be of interest but can provide for your FUTURE CAREER please contact Marshall Cligman.

NOT SO BASIC DEC
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MAJOR COMPANY MIDLANDS £8-£11,000

PROJECT LEADERS and ANALYST PROGRAMMERS are required by a Midland-based organisation. The project leaders are required to head development teams working on both manufacturing and financial systems and experience of building mini computer systems from conception to final implementation is desired. It is unlikely that anyone under the age of 24 would have the required experience. ANALYST/PROGRAMMERS are also required by the same organisation to work on their IBM mainframe equipment using both IMS/MVS and DL/I and CICS. Experience of at least one of these utilities, coupled with a minimum of two years' COBOL or PL/I programming is essential.

As one of the leading Recruitment Consultancies in the Midlands, we are constantly looking for experienced Analysts and Programmers for a number of top systems houses and commercial concerns. If you have substantial programming experience in mini or mainframe systems, and would like to test the market, please contact Kevin Young or Mike Lanyon in our Birmingham office on 021-622 2045.

Excellent salary plus benefits associated with one of the world's major Airlines Location: Gatwick, Sussex

Our client, "Airline of the Year", British Caledonian Airways is Britain's leading independent airline. They now wish to recruit a Systems Project Leader to join their Management Services Department at Gatwick. The appointment is an important one and is created by considerable expansion in the use of Management Services.

A wide range of important new on-line systems, mostly using database are contemplated and this development offers an interesting and challenging opportunity. The successful applicant will have about 10 years data processing experience and during this period will have gained significant knowledge of current IBM hardware and software. British Caledonian currently use IBM 4341's with DL1 and CICS/MANTIS and someone that has worked within this environment will be a particularly relevant candidate. The position will attract

someone who is currently working as a Senior Systems Analyst or as a Project Leader and has good experience of developing engineering or manufacturing systems. He or she will have controlled projects from the initial design stage to full implementation, will be used to dealing with users and will be able to control staff, both from a technical and an administrative point of view.

Our client is looking for enthusiasm, intelligence and the ability to get things done, in a most exciting and dynamic environment. If you would like to know more about the position please contact John Goldsmith, quoting Reference 415, on 01-631 4184 (day) or (Camberley) 21266 (evenings) or write with details to:- A&A Consultants (Holding) Ltd, County House, 10 Little Portland Street, London W1N 5DF.



British Caledonian Airways

Software Engineers

looking to break into
Technical Management?

and earn up to £12,500

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Only a company with a reputation for producing managers who lead by example could offer you the necessary training. Here small teams of engineers are led by software professionals who retain their hands-on involvement in

system design from initial feasibility stage.

Utilizing advanced software techniques on micros they are responsible for guiding a project through to its final implementation. With experience of any high level language or assembler you could be involved in this specialised area of advanced high technology electronics.

For further details telephone in strictest confidence Miles Richards on 01-938 1804 (24 hrs) 01-847 2385 Evenings 7-9 p.m.

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SYSTEMS ANALYSIS

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- ☐ **PURE ANALYSIS:** with a good proportion of development work, entirely in London
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- ☐ **PROSPECTS:** very sound, in a busy installation, with ample new projects and opportunities for advancement.

This opportunity will interest either

- ☐ **SYSTEMS ANALYSTS** with upwards of two years' analysis experience (the application background is not critical, as our clients will provide retraining where necessary), or
- ☐ **ANALYST/PROGRAMMERS** who wish to move to systems analysis work.

If you feel that a move to a major, up-market installation would help your career, please ring us in confidence for a talk, quoting ref. 191. If it is more convenient for you to ring outside office hours, your message will be recorded.



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USA

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Contracts will be for six to 12 months (extendable) and all positions will carry H1 VISAS. Remuneration package can be tailored to suit individual requirements and can include a car and accommodation. Medical health insurance is standard for all contractors.

If you would like further details on these U.S.A. contracts please contact JOAN LOVEJOY (telephone Hemel Hempstead (0442) 4076) or write to: Computer Search and Selection, Hamilton House, Marlowes, Hemel Hempstead, Herts.

Computer Search
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PRIMOS and/or VME Technical Support North West

Salary to £11,300 + Relocation

Our client, a world leader in its field, is a major company with a turnover in excess of £450 million per annum. Its computing strategy is based on the use of powerful mini computers providing on-line facilities for a range of scientific and commercial applications and CAD.

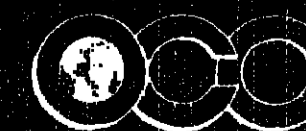
An opportunity now exists for a systems programmer to join a small, dedicated team supporting mainly PRIME 550/750/850, CIPHER, and ICL 2900 systems. The department also provides technical support to multi-disciplinary users on a variety of equipment.

Candidates should have at least two years' relevant experience, ideally supporting PRIME software, although VME 2900 will also be considered. Hardware/software training will be provided as necessary.

The company is located in an attractive and easily accessible part of Cheshire, and a wide range of reasonably priced housing is available. Conditions of employment are excellent, and include a 37 hour week, flexitime, and over six weeks holidays a year.

All replies will be treated in strict confidence.

For further details, contact Tony Roberts on (0270) 627206 daytime or (0270) 624058 evenings and weekends, or write to him at the address below.



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PUBLIC SECTOR APPOINTMENTS

SENIOR PROGRAMMER/ANALYST

£9,060-£9,660

We are looking for a versatile man or woman with at least three years' experience in designing, programming and installing systems on Honeywell Level 64 DPS 2 equipment to join a small team working on a variety of established and new financial applications.

The opportunity will exist for assistance with qualifications. Rugby lies in pleasant countryside in the heart of England with easy access to all parts of the country via road and rail links. Relocation expenses (up to £1,000), possible Council housing. Salary within scale S01.

For an informal discussion, telephone Richard Freeman (ext 309). Application form and job description available from the Personnel Unit, Chief Executive's Department, Town Hall, Evesham Way, Rugby, Warwickshire CV21 2LB. Tel: Rugby 77177, ext 453484.

CLOSING DATE: 14 November 1983

RUGBY BOROUGH COUNCIL

SYSTEMS PROGRAMMERS

(Arts, science and engineering graduates)

Applications are invited for three posts as SYSTEMS PROGRAMMERS in the University's Computer Centre. The Centre is equipped with Honeywell 100/100 and multi-micro systems with network access to a range of specialist computers elsewhere. There is also a small investment in local networks and microcomputers.

Candidates should be graduates, preferably with some relevant experience. One post will be specifically for COMPUTER AIDED ENGINEERING and graphics software; candidates with some engineering background would be preferred. The other two posts are more general, but possibly suitable for an arts graduate who would ultimately concentrate on UNIX II, NETWORKING and PERIPHERALS as part of computing. In all cases suitable training and support would be provided.

Loughborough Loughborough (0431)

LECTURER IN COMPUTING SCIENCE

Applications are invited for a Lectureship in Computing Science, available from 1st September 1984 or such date as may be arranged.

The Department presently has research in programming languages, databases and graphics, and preference will be given to an applicant with interests in one or more of these areas and with a broad background in Software Engineering.

The appointment will be on the Lecturers' scale of £7,185-£14,125, plus pension, according to age, qualifications and experience.

Further particulars may be obtained from the Secretary of the University Court, University of Glasgow, Glasgow G12 8QQ, with whom applications (in duplicate), giving the names and addresses of three referees, should be lodged on or before 9th December, 1983.

In reply please quote Ref. No. 5157P (0313)

RESEARCH ASSISTANT (COMPUTING)

An SERC co-operative research project is being established to develop computer simulation techniques for the study of the combined thermal performance of buildings and their heating or air-conditioning systems. The partner in the project is a leading consulting practice.

A post-doctoral or experienced computer specialist is sought to join an engineer already in post. The work involves the use of Fortran on a Prime system. We hope to establish guidelines for a modular system of programme which will form a framework for further development, and to study the problems of system description and control logic. Applicants should possess a higher degree or extensive postgraduate experience, particularly in writing interactive programmes or computer simulations. Salary in the range £7,190 to £11,915 p.a.

Further details may be obtained from the Secretary of the Department of Mechanical Engineering, University of Bristol, Queens Building, Bristol BS8 1TL. Applications should be submitted by November 30th, 1983 (0312)

ANALYST/PROGRAMMER - DATA PROCESSING

The Data Processing Section of the Computing Unit has a vacancy for an Analyst/Programmer to develop systems for the University's Administration and Library. The successful applicant will develop systems on a variety of computer equipment, programming in Cobol.

Applicants should have proven programming ability and a degree or equivalent qualification.

The appointment will be made on the Computer and Other Related Staff II salary scale (£7,190-£11,915 per annum), according to age, qualifications and experience.

Further particulars are available from the Staff Office, Guildford GU1 2ST, extension 778. Applications in the form of a curriculum vitae (two copies), including the names and addresses of two referees, should be sent to the Staff Office, University of Surrey, Guildford, Surrey GU1 2ST, by November 25, 1983, quoting reference 206CW. (0324)

Applications Programmer

POST NO. 468104

Applications are invited for this post in the Computer Unit. Salary scale 4/5 (£6,264-£961).

Application form and further information from Administrative Officer (Sisthng), Gloucester, Gloucester Lane, Gloucester, G1 3E, please. (0284)

A Research Officer

is required for a period of two years from 1 January, 1984 for an SERC-supported project into the application of computer graphics in construction management. The Officer will initially advise on the selection of an appropriate system and then work with an experienced senior lecturer to develop construction management systems for advanced computer graphics technology. The successful applicant is likely to hold a higher degree and to have experience of the design and implementation of computer graphics systems. A background in construction is not necessary. Starting salary up to £8,500 p.a. USS superannuation. Apply, quoting Ref. 133, for application form and further particulars to Personnel Officer, University of Reading, Whiteknights, Reading RG6 2AH.

Closing date 25 November, 1983 (0276)

GEC RESEARCH FELLOWSHIP

Applications are invited for the GEC Research Fellowship in Robotics available at St Cross College, Oxford. The successful applicant will work with a senior Fellow of the College in research on applications of advanced computing techniques to sensor-guided robots.

Oxford has become internationally recognised in robotics research mainly because of results achieved on later optical guidance of an end effector. The Fellow would initially be expected to make a major contribution to this, or to one of the other four major projects under the leadership of the senior Fellow. The Research Fellowship would have a term of three years, with the possibility of extension. The Fellowship has been provided by the generous support of GEC Ltd. It will be tenable for three years with a possible extension of one year, carry a salary on the University Lecturer scale from £7,190 in addition to membership of the College.

Applicants including a cv and the names of two referees should be sent by 21 November, 1983, to The Master, St Cross College, Oxford OX1 3QZ. For further information, contact P. G. Drury, Tel. Abingdon 440108 mentioning your interest in the post. (0293)

LONDON BOROUGH OF BRENT AND EALING JOINT COMPUTER INSTALLATION

SENIOR SYSTEMS ANALYST

Based at ACTON TOWN HALL

£11,961-£13,005 p.a. incl.

Systems and Programming Staff are organised into project teams, each team being responsible for a designated area of the Council's activities. These posts are new and will report to the project managers.

Successful applicants will be involved in and need experience of systems investigation and design production of program specifications, system testing and implementation of new and existing systems.

The installation has an IBM 3083 running under VM and DOS/VSE, software includes CICS, DL/I, Easytrieve, on-line Librarian, APL MANTIS, etc.

Please quote reference: 048 PD Closing date: 18.11.83

Applications forms obtainable from the Personnel Office, Room A204, Town Hall Annex, New Broadway, Ealing W5, Telephone 01-840 1995 (24 hour service). (0291)

TRAINING OFFICER (INFORMATION TECHNOLOGY)

Salary £10,677-£11,784

This post is part of the Central Training Section which provides a training resource within the council and to its 7500 employees. Applicants should be familiar with office-based information technology, ideally in the context of local government. Developing and arranging training activities which promote an awareness of new technology and which help users to identify appropriate applications will be an important part of the job. The ability to apply training solutions to the problems individuals face when confronted by information technology in their day-to-day work will be necessary. In addition, applicants should have the ability to produce In-House training manuals as new technology systems are introduced.

Applicants should have had relevant training experience within a large diverse organisation. They will also need to demonstrate a full range of training skills, especially an ability to relate training to wide organisational issues. An appropriate training/personnel or information technology related qualification will be an advantage although relevant experience will also be looked for.

Applicants should also be able to demonstrate a sensitive approach to the introduction of new technology since many staff still have genuine concerns about the impact of new technology on their jobs and careers.

For informal discussion contact Peter Yarett or Penny Bridges on 01-852 9121 extension 273 or 287.

Open to Job Sharing arrangements.

Application form, returnable by 11th November 1983 and detailed job description from Acting Chief Personnel Officer, Town Hall, Catford, London SE8 4RU or telephone 01-690 7686 (24-hour Answerphone service) quoting reference CE372(5) and job title.

LONDON BOROUGH OF LEWISHAM

Our jobs are open equally to all races and both sexes (0227)

De Havilland College

The Campus, Welwyn Garden City, Herts.

Department of Computer Studies (Based at Elstree Way, Borehamwood)

Lecturer Grade II and Lecturer Grade I

with experience of commercial data processing, preferably in micro and/or mini computers. Applicants with lecturing experience and teacher training, with preferably a knowledge of two of the programming languages, BASIC, Pascal or COBOL.

Assistance with removal expenses in approved cases.

Forms and further details from The Principal, de Havilland College, The Campus, Welwyn Garden City. (Telephone: Welwyn Garden 26318, ext. 21.) (01609)

FOR CLASSIFIED ADVERTISING USE DIRECT LINES

CITY POLYTECHNIC OF HONG KONG

The Hong Kong Government has appointed a Committee to plan the establishment of a second polytechnic in Hong Kong. To be named the City Polytechnic of Hong Kong, the institution will have an initial target of the equivalent of 10,000 full-time students by early 1989 and a planned capacity for an ultimate population of 15,000. The Polytechnic is intended that the study programmes should be developed on a modular basis with a strong vocational flavour. The majority of courses will be at professional and higher technical levels, and a substantial number will have strong research and training components. There will also be degree programmes, although the number of students on such programmes will not exceed 10% of the total student population.

The Planning Committee has made appointments at this time for a Vice-Chancellor and Head of Department levels. Some of them are already in post. Meanwhile, applications are invited for the following posts:

At Head of Department Level:
Heads of the following initial administrative departments:
HEAD (COMPUTER CENTRE)
(Ref. No. CP/1/1/001/78/9)
To be responsible for the development and operation of the Computer Centre, MANAGEMENT INFORMATION OFFICER (Ref. No. CP/1/1/001/78/9)
To be responsible for the development and operation of a Management Information System, the function of the Unit will be to collect information from a variety of sources on aspects of Polytechnic activity, to collate this information into a coherent and useful product, to supply such data as may be required for planning purposes.

The Heads of administrative departments will be expected to work in consultation with three Associate Deans (Academic Planning, Resources Planning and Management) and to ensure that the administrative systems provide a proper framework for peace academic and administrative developments.

At Principal Lecturer/Senior Lecturer Level:
DEPARTMENT OF COMPUTING STUDIES
(Ref. No. CP/2/COMP/002/83)
Specialist: Technical Areas: COBOL, PASCAL, ADA, 4th generation languages, Database Systems Analysis and Design, Networking and Graphics, Applications Areas: Finance, Accounting, Banking, Marketing, Manufacturing, Process Control, Education, Engineering and Management.

Successful candidates are expected to assist the Head of the Department to plan, design and administer new programmes and courses modules up to degree level, and to teach their specialist areas. Personal research will be encouraged. Preference will be given to candidates with a successful research record.

Salaries:
Heads of Departments: Within a range that not less than HK\$277,200 p.a.
Principal Lecturer: HK\$200,000 - HK\$260,000 p.a.
Senior Lecturer: HK\$175,000 - HK\$228,000 p.a.
Lecturer: HK\$94,400 - HK\$158,120 p.a.
£1 HK\$12 00 - Starting equivalent as at October 12th, 1983.

Terms and Conditions of Service:
For initially posts, the initial appointment will be made on a fixed term contract of four years, at the end of which a grantee equal to 2% of salary (not over the whole contract period) will be payable. Benefits include long leave, gratuity, subsidised housing, medical and dental benefits and, where appropriate, children's education allowances and leave pay.

For Principal Lecturer/Senior Lecturer posts, appointment will be made initially on two year graduate training contract. Beneficiaries on long leave, subsidised accommodation for spouse, appropriate and in all applications on a salary of HK\$12,000 p.a. above, medical and dental benefits and, where appropriate, children's education allowances and leave pay.

Applications: Applications forms and job specifications are available from the Association of Commonwealth Universities (A.C.U.), 36 Gordon Square, London WC1H 0PF. Complete forms should reach the Secretary to the Planning Committee, P.O. Box 36441, Town Ship, Tsim Sha Tsui, Hong Kong, by November 19th, 1983. One additional copy should also be lodged with the Association of Commonwealth Universities Ltd. Please mark appropriate reference number on cover. The posts at Headship level are subject to approval in principle by the Planning Committee in April 1984. need not re-apply.

Interviews: For all the above posts, interviews of United Kingdom candidates on the shortlist are planned to take place in London in the second and third weeks of January, 1984. The recommended candidates for Head of Department posts will be invited to attend final interviews in Hong Kong around the third week of January. (0146)

RE-ADVERTISEMENT

Principal Computer Officer

(Ref. L245)

Salary (POIA) £10,242-£11,052 p.a. plus £747 London Weighting

Senior Computer Officer

(Ref. L247)

Salary (Scale 6) £8,164-£8,712 p.a. plus £747 London Weighting

Brent Library Service is acquiring a mini computer in order to provide an integrated on-line system including stock acquisition, cataloguing, and circulation-control processes initially. Development of new data and other information and office systems is planned for the near future. These two posts will be responsible for the completion of initial work on the project and for its overall operation and development thereafter.

Applicants for the post of Principal Computer Officer must have proven experience in staff management and computer operations at a senior level together with the ability to plan, organise, negotiate with suppliers and manage creatively a complex project of this nature.

Both posts require a knowledge of public library systems, of developments in new technology, and the ability to work effectively under pressure.

Previous applicants for these re-advertised posts will automatically be considered again.

For informal discussion of these posts, please contact John Clarke or Sean O'Reilly on 01-461 3444.

BRENT IS AN EQUAL OPPORTUNITY EMPLOYER. APPLICATIONS ARE WELCOME FROM CANDIDATES REGARDLESS OF RACE, NATIONALITY, ETHNIC OR NATIONAL ORIGINS, AGE, MARITAL STATUS, SEX, SEXUAL ORIENTATION AND FROM DISABLED PERSONS.

Application forms and job descriptions from the Personnel Division, Room 1, Brent Town Hall Annex, Forty Lane, Wembley, Middlesex HA9 9BA, returnable by Monday, November 21st, telephone 01-803 0371 (24-hour Answerphone service). Reference numbers must be quoted.

London Borough of BRENT

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Their 1984 plans include the recruitment of Sales Executives with in-depth experience of communications systems sales, to either small business or major account customers.

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You must be able to demonstrate a proven capability to handle major accounts and generate new business.

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All sales personnel with above target performance for this year should contact us to arrange a meeting to discuss your own prospects for 1984.

Ref MM1

For more information and an immediate interview contact FRED BRAMLEY on Farnborough 516141 during office hours, or Reading 345588 evenings and weekends.

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Syntek is a technical systems house undertaking a wide range of projects. We wish to recruit a mature sales engineer with a track record in selling software services.

Applicants should have a commitment to customer service, a strong technical background, and experience of at least two of these market sectors: communications, automation, banking, oil and defence. Responsibilities will include development of new and existing national accounts, preparation of proposals, and contract negotiation. This post offers the opportunity to participate in the growth of an expanding and successful systems house. Please send full c.v. to: Angela Smith, Syntek Ltd., Suite 14, 98 St. Martins Lane, London WC2N 4AX. Telephone: 01-836 7466.

Syntek

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LONDON

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AN EXECUTIVE (WEYBRIDGE) 0932 41321
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PROGRAMMERS/ANALYST PROGRAMMERS TRAIN ON SYSTEM 38

City of London to £12,000

With System 34's in Europe, Australia and the Far East and a System 34 and a 38 in London, this international money broker is fully committed to GSD technology. To ensure that in-house systems continue to provide the level of support that this fast-moving industry demands, they now need two experienced programmer/analysts.

You will join a small team responsible for the continued enhancement of existing systems as well as the further development of multi-currency, multi-company, financial and management information systems. Subsequent to development these will be implemented in the overseas offices and some travel may be necessary.

Applicants should have had either 18 months RPL if experience or a thorough grounding on the System 34 with some exposure to the 38. You should have worked within a sales orientated environment handling both bespoke development and package implementation. Bright, presentable, enthusiastic candidates can expect a salary of up to £12,000 with a non-contributory pension scheme and other benefits.

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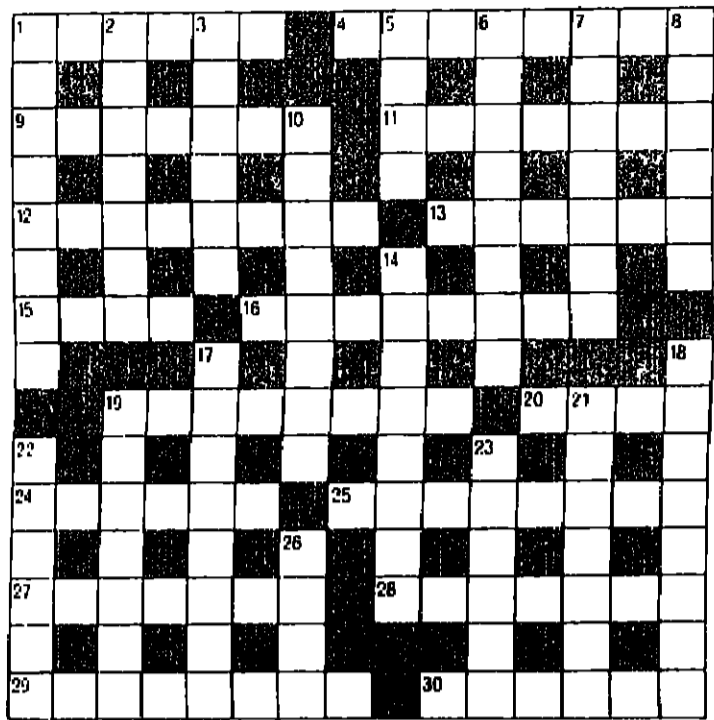
EMPAGY

CROSSWORD

Prize Crossword No 46

Compiled by Alec Robins

A prize of £10 will be awarded for the first correct entry opened. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS, by first post Friday, November 11. Please use a ballpoint to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name (Miss, Mrs, Ms, Mr)

Address

Telephone

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed Date

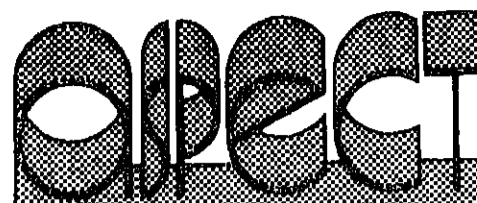
ACROSS

DOWN

- 1 Jumped with back arched, getting cheered (6)
- 4 A little bit of music produced by a wham (8)
- 9 One who argues with society girl beside the Queen (7)
- 11 Please tell about fist being damaged (7)
- 12 Support the principal and the others (8)
- 13 Plan made by soldiers pushed back in retreat (6)
- 15, 16 To ridicule somebody, keep Ann out of dance (4,3,2,3)
- 19, 20 Wrong rations distributed in Aldershot, perhaps (8,4)
- 24 Put me in the back - it makes more room for the bore (6)
- 25 Plastic material man turned over in pit (8)
- 27 Rather needy, or one in smart surroundings? (7)
- 28 Lay on the ground, losing 2-1 at Wimbledon? (3,4)
- 29 Aboard ship, left the wine with a pretentious air (4,4)
- 30 Little Agnes is a monster! (6)
- 1 Heaps that beaten boxers may finish in? (3,5)
- 2 Sailor grabbed by eccentric fellow where taxis wait (3-4)
- 3 Complete Scriptural writings discovered in Ireland (6)
- 5, 6 Achieve distinction and behave like scum? (4,2,3,3)
- 7 It's stuck up in a hiding place of the enemy (7)
- 8 Yen I obtained in a Chinese guild, trifling (6)
- 10 Artist's inserted a mad monk (8)
- 14 Titled lady one's met in pubs (8)
- 17 Appalling rate rise for main channels of transport (8)
- 18 One confined within limits in winter, needlessly (8)
- 19 Girls' head, Dorothy, an alluring beauty (7)
- 21 Portending evil, nothing less, when embracing love (7)
- 22 Cause to stumble in climbing expedition? (4,2)
- 23, 26 See domestic pet, let loose, drop in the byre (6-4)

RULES AND CONDITIONS

1. Each competitor may submit no more than one entry.
2. The competition is open to all readers of Computer Weekly with the exception of the staff of Business Press International Ltd, any printers employed by them or the near relatives of any such staff.
3. The solution of each puzzle will normally be published in the issue three weeks after the puzzle has been published.
4. Winners will receive their prizes during the month following the competition.
5. The decision of the editor on the interpretation of the rules, and conditions and on all matters shall be final. No correspondence will be entered into.



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SYSTEMS ANALYST CITY to £14,000 + MORT.
Our client an International Banking Corporation with impressive offices seeks to recruit an Analyst to work on large financial projects. Applicants should have TWO YEARS' IBM analysis experience preferably with a programming background. Banking knowledge would be advantageous and candidates should have worked on projects from inception to completion.

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Do you want to work on a NEW DEVELOPMENT PROJECT? This client offers new projects, TRAINING IN CICS and DATABASE, excellent PROMOTION prospects, and a dynamic working environment. In return can you offer good analytical skills, minimum of TWO YEARS' IBM COBOL, enthusiasm and commitment?

PROGRAMMERS S. LONDON £11,000 + MORT.
This prestigious International Bank retains IBM 4300 hardware using COBOL CICS and DL/I. They are seeking two PROGRAMMERS to work initially on Foreign Exchange Systems. No banking experience is necessary as full training is given. For this excellent opportunity you need TWO YEARS' IBM COBOL with some exposure to CICS.

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PROGRAMMERS N. LONDON to £12,500
This well-respected company based in North London retains IBM mainframes using COBOL, CICS and DATABASE. All you require is a minimum of 18 months' IBM COBOL. TRAINING will be given in PL/1 and DATABASE. Company offers excellent starting salaries plus yearly reviews.

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Telford Development Corporation

DEPARTMENT OF ENGINEERING SERVICES

COMPUTING ASSISTANT

Grade III/IV (£5,481-£6,612)

Applications for the post of Computing Assistant in the Operations Section of the Department are invited from persons with a suitable computing qualification and/or at least two years' experience in the application end/or the programming of computers.

The Department makes extensive use of computer-aided design techniques and the successful applicant will be expected to assist staff in the use of the computers as well as analysing problems in BASIC or FORTRAN.

Applications, giving details of qualifications and experience, should be forwarded to the Personnel and Management Services Officer, Telford Development Corporation, Priorale Hall, Telford, Shropshire TF2 9NT by 7th November, 1983.

(4225)

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So much for the technology; the company is substantial, but relatively new in Europe, yet a world leader in its area of specialisation. So, here is a chance to be in at the early stages of an assured success. Already, many prestigious accounts have been secured and expansion is very rapid.

The requirement is for two salesmen located in

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both of whom will be experienced in selling either substantial mini/mainframe computers, or large-scale communications systems to major companies and institutions. A proven record of success embracing both existing and new accounts selling involving DPM and board-level negotiations, is essential. Familiarity with data communications and real-time systems will be an advantage, but not a necessary qualification.

We are prepared to negotiate a minimum compensation package of around

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£11,500

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SALES BIT

Quality of Management - 71

Follow a formal selling structure

LAST week I briefly mentioned how I came across the example of an unnamed Japanese computer company that puts considerable stress on the importance of selling within a predetermined structure of sequential key events.

I was led to believe that its salespeople were instructed to adhere to the format of the planned strategy without fail at all times. To emphasise the point, every salesman is obliged to carry around a card upon which the 11 stages of its formal selling structure are clearly stated. They apparently call it "Profile of a Sale".

It may sound like they employ a bunch of well meaning androids rather than salespeople, but there appears to be considerable merit in the principle involved, if not the application.

Here are the elements concerned. It is essential to understand thoroughly the structure of a company, its products, its markets, its related companies, cross directorships, revenues, number of employees, and so on. Without such information it is as easy to waste time on a meaningless prospect as it is to raise a major business opportunity.

Stock Exchange Yearbook, Kompass and Dunn & Bradstreet, can help a lot. A copy of the most recent annual report is particularly useful. The best way to get one is to send a hand written letter from your home address.

Contacts must be established. If you don't make the right contacts from the outset, you may spend the rest of the selling cycle regretting it.

It is necessary to identify the key people within the decision-making process and create the appropriate strategy for making the most effective approach.

Remember it is always politically acceptable for the salesman to move down the hierarchical pyramid, but not up it!

You must meet both decision maker and recommender. Identifying the key decision maker can be a difficult business; but even if committees and boards of directors are involved, there is always someone, somewhere, who actually wields the power to say yes or no, even if he does so by subvert means.

**A detailed analysis
of requirements
could be greater
than the anticipated
profit margin**

However, such a person can be greatly influenced by those whose technical and financial experience he may have to call upon. Ignore them at your peril.

You may be in no doubt about what the prospect needs, but you cannot afford to ignore what he says he wants, even if there is a significant disparity between the two.

By all means recommend what you believe to be best and decline to provide something that you know will not work; but do not ignore the fruits of the prospect's own considerations.

Far better to go through his evaluatory process and see how he arrived at his conclusions. Make no assumptions. After all you might just learn something.

Those who read last week's column will have some appreciation of the "decision making unit" approach to evaluating the client's likely attitude towards what is important and irrelevant, as well as his assessment of the supplier's related strengths and weaknesses.

It is essential to consider how the product measures up to the detailed requirements of the pro-

spect and whether in truth there is a real cost/benefit involved.

It is easy for the salesman to involve himself in a considerable amount of work in pursuit of a lost cause, which could have been avoided simply by asking the prospect to review his possible chances of getting the business.

I suppose you could say it's the oldest trial-close in the book.

Evaluating a problem and proposing a solution can be a very expensive business. (One of my clients reckons it costs around £100,000 for his company to put in a detailed proposal).

It is therefore very important to discover the likely total cost of carrying out a detailed analysis of requirements before starting out. It could be greater than the anticipated profit margin.

**Don't send a
detailed proposal if
a one-page letter
will have the
required effect**

Furthermore, there's no point in incurring heavy costs for a survey if the chances of ultimate success are virtually nil.

Carrying out the survey is a great opportunity for not only getting to know the facts, but also for getting to know the people involved.

If you were smart enough to make contact with the key decision maker from the start, be sure to keep going back to let him know how you are getting along. That's one door you need to keep open.

There is no substitute for thorough presentation. Know your product, know your audience and be sure to go through the whole presentation at least once before the real event.

Even then, be prepared to be struck by lightning!

The proposal should merely confirm what has already been presented and agreed. It must be a document that endues a professional image and enhances, rather than reduces, the credibility of the product, the company and the salesman.

It should summarise, as well as detail, the facts that are being presented.

Above all, it should contain no surprises.

Furthermore, don't send a detailed proposal if a one-page letter will have the required effect.

Close quickly. I managed to write 20,000 words on the subject of closing in my book, All About Selling, so there is quite a bit I could say on the topic.

The primary discipline is to close early and often, and you can only do that if you listen intently throughout the sales dialogue. It is essential to recognise not only the right time to apply the final close, but also the appropriate approach for the situation at hand.

If you miss the right time to close it may not be your last chance but it could be your best one.

Finally, make sure you have followed the checklist. Well, have you?

Alan Williams

PUZZLE ANSWER

LET us use a "Yes-No" notation, with a capital letter for "digging", and an ordinary letter for "cleaning". The following relationships may then be eliminated from the reckoning by considering the five original statements: A_Y, B_C, C_Y and C_D and C_D, A_Y and D_Y.

Once this has been done, it quickly becomes obvious that aBCDE is the only possible Operational Status.